SHARP SERVICE MANUAL

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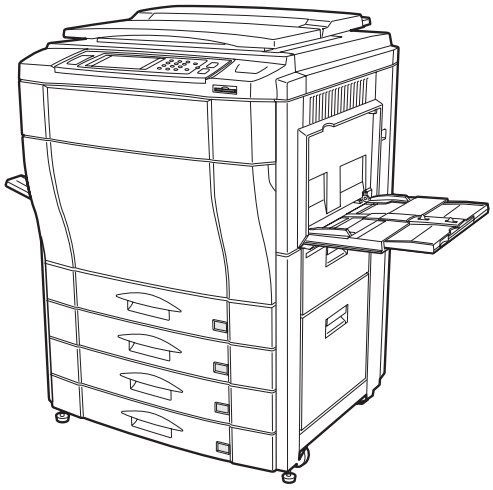

DIGITAL FULL COLOR COPIER

MODEL AR-C150 AR-C250

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This Service Manual describes only the different points from the AR-C150. For servicing of the AR-C250, therefore, use this Service Manual together with that of the AR-C150.

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

Cautions on laser

Wave length	785 nm +10 nm -15 nm
Pulse times	North America: (4.374 µs ±4.4 ns)/7 mm Europe: (5.732 µs ±5.7 ns)/7 mm
Output power	0.25 - 0.45 mW

Caution
This product contains a low power laser device. To ensure continued safety do not remove any cover or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.

For North America:

SAFETY PRECAUTIONS

This Digital Copier is rated Class 1 and complies with 21 CFR 1040.10 and 1040.11 of the CDRH standards. This means that the copier does not produce hazardous laser radiation. For your safety, observe the precautions below.

- Do not remove the cabinet, operation panel or any other covers.
- The copier's exterior covers contain several safety interlock switches. Do not bypass any safety interlock by inserting wedges or other items into switch slots.

For Europe:

CLASS 1 LASER PRODUCT

LASER KLASSE 1

LUOKAN 1 LASERLAITE

KLASS 1 LASERAPPARAT

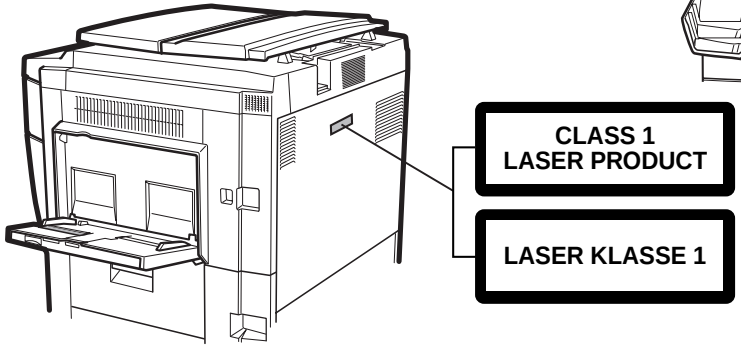
CAUTION
INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

VORSICHT
UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.

ADVARSEL
USYNLIG LASERSTRÅLNING VED ÅBNING, NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLNING.

VAROITUS!
LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING
OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.



(Caution on power source)

Before servicing, be sure to disconnect the power plug from the power outlet.

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* The sections marked with " **Complete** " describe all the contents of the AR-C150/C250.
The other sections describe only the different points from the AR-C150.

[Contents of this Service Manual]

This Service manual is made in the following principles. They must be fully understood to utilize this Service Manual.

1) Different items from the AR-C100/C150 and unique items of the AR-C250
2) Corrections of erroneous descriptions in the AR-C100/C150 Service Manual.
3) The contents modified in the AR-C100/C150

Note

1) Contents which are not described in this Service Manual are described in the AR-C100/C150 Service Manual. Please refer to it.
2) The descriptions in this Service Manual are the latest ones. For the same items with this Service Manual, do not refer to the AR-C100/C150 Service Manual.

   Therefore, the combined use of the AR-C100/C150 Service manual and the AR-C250 Service Manual is required for servicing of the AR-C100/C150 as well as the AR-C250.

[Differences between the AR-C100/C150 and the AR-C250]

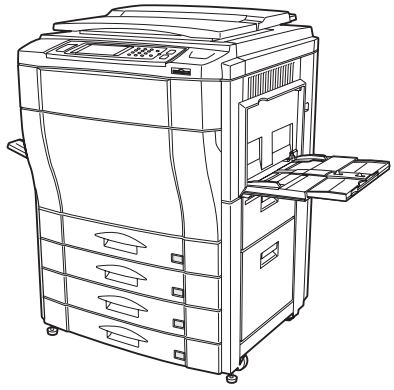
(The major differences between the AR-C100/C150 and the AR-C250 are as follows.)

Section/Function	Differences		NOTE
Specifications/Function	Copy mode	Copy mode added (AR-C250)	The AR-C250 has a greter number of copy modes than the AR-C100/C150. Especially the copy docu,ment copy mode is added to the AR-C250.
	Copy speed	Increased copy speed in the color copy mode (AR-C250)	Increased speed only in the color copy mode.
Fusing section	Improvement in fusing capability	The heat roller size differs. (The AR-C250 heat roller size is greater.) Along with this, other parts such as the frame differ.	
		The fusing temperature differs.	
CCD PWB unit	The CCD and the CCD PWB are different.	Picture quality improved (AR-C250)	
ICU MAIN PWB unit	Page memory capacity	128MB(AR-C100/C150) 256MB(AR-C250)	The capacity is increased to increase the copy speed. (One scan multi print function in the color copy mode available)
ICU image PWB unit	Image process	Picture quality improved (AR-C250)	Changes only in the software, and no change in the circuit diagram.
PCU MAIN PWB			The PCU MAIN PWB, formerly divided into two, is integrated into one. (Compatible with that for the AR-C150)
PCU SUB PWB			Change in the communication driver (Compatible with that for the AR-C100/C150)
Copy lamp	Light quantity	Light quantity increased (for the new CCD) (AR-C250)	
Operation unit	Color/Monochrome display	Color LCD(AR-C250)/Monochrome display (AR-C150)	Because of color display, the LCD unit and the operation control PWB are different between the AR-C250 and the AR-C100/C150.
Main charger unit	Parts addition		Common to all models
Consumable parts	Toner	Color toner quantity increased	Model name changed/Compatible, common to all models (except for Japan models)
		New black toner	Color toner is common to all the models.
Option	Option addded/Finisher (AR-FN4)		Installation allowed only in the AR-C250./The sort function is enabled only in the printer mode and disabled in the copy mode.
Others	Monochrome copy mode color balance adjustment added		Adjusted with a new simulation. (AR-C250)
	Auto image registration adjustment added		Adjusted with a new simulation. (AR-C250)
	Black toner component image gamma adjustment (Adjustment of reproduction capability of black characters and lines)		Adjusted with a new simulation. (AR-C250)

[1] CONFIGURATION

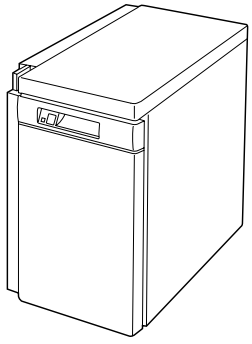
1. Main unit and option lineup

(1) Main unit lineup

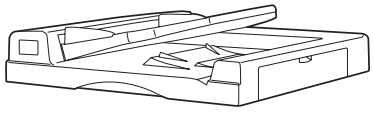


AR-C150/C250

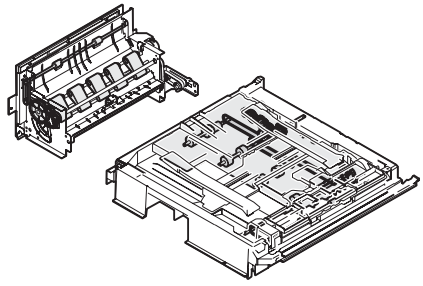
(2) Option lineup



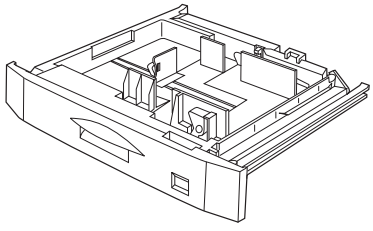
AR-LC2/Large capacity tray (excluding Japan)



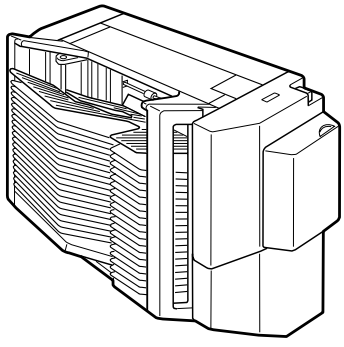
AR-RF1/Reversing automatic document feeder



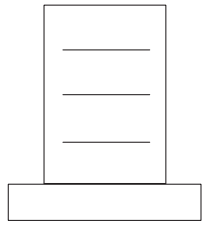
AR-DU2/Duplex module



AR-CS2/500 sheet paper drawer

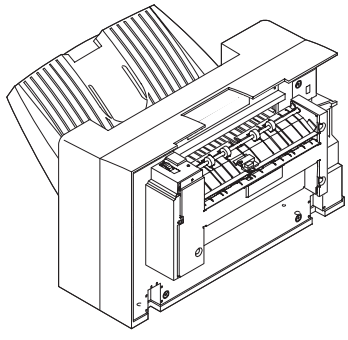


AR-SS2/20 bin staple sorter



Fiery/Printer controller (AR-PE1)	
Printer engine I/F kit	(AR-PX1)
	(AR-PX2) (North America)

AR-VR2/Original cover (excluding Japan)



AR-FN4 Finisher (Only use for AR-C250)

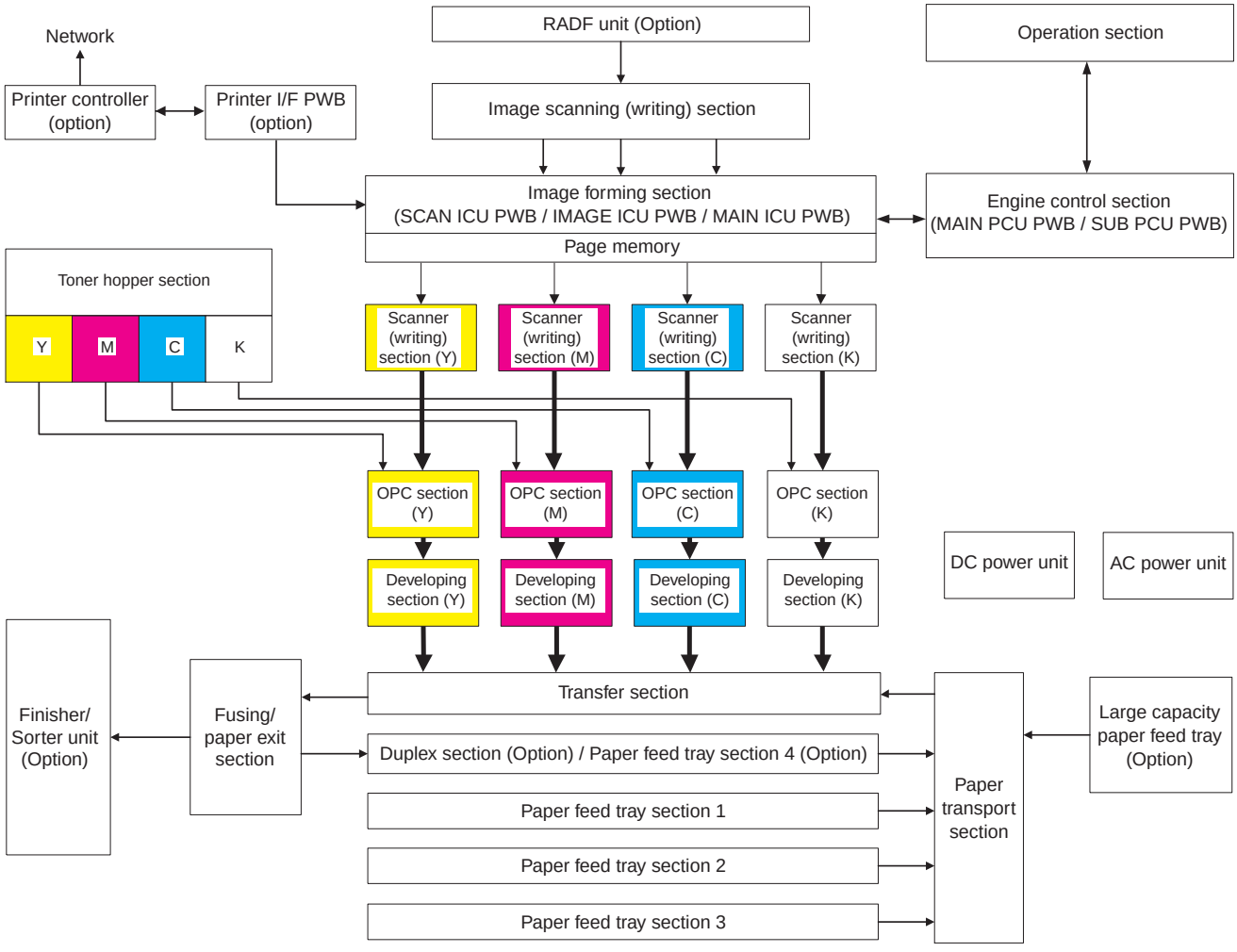
(3) Option combinations

Option		Model	Power source	Note
Item	Model			
Large capacity tray	AR-LC2	AR-C150/C250	Supplied from the copier body.	Outside of Japan only
Reversing automatic document feeder	AR-RF1	AR-C150/C250	Supplied from the copier body.	
Duplex module	AR-DU2	AR-C150/C250	Supplied from the copier body.	
500 sheet paper drawer	AR-CS2	AR-C150/C250	Supplied from the copier body.	
20 bin staple sorter	AR-SS2	AR-C150/C250	Supplied from the copier body.	
Department supervision card reader (Japan only)	AR-EC1	AR-C150/C250	Supplied from the copier body.	Japan only
Fiery Printer controller/Printer engine I/F kit	AR-PE1/AR-PX1	AR-C150/C250	Supplied from the copier body. (AR-PX1)	
Original cover	AR-VR2	AR-C150/C250		Outside of Japan only
Finisher	AR-FN4	AR-C250	Supplied from the copier body	Sorting is disabled in the copy mode.

Item	Model	Finisher	Fiery Printer controller	Department supervision card reader (Japan only)	20 bin staple sorter	LCC (Outside of Japan only)	500 sheet paper drawer	Duplex module	RADF
RADF	AR-RF1	❍	❍	❍	❍	❍	❍	❍	—
Duplex module	AR-DU2	❍	❍	❍	❍	❍	×	—	—
Paper feed tray	AR-CS2	❍	❍	❍	❍	❍	—	—	—
LCC (Outside of Japan only)	AR-LC2	❍	❍	❍	❍	—	—	—	—
20 bin staple sorter	AR-SS2	×	❍	❍	—	—	—	—	—
Department supervision card reader (Japan only)	AR-EC1	❍	▲	—	—	—	—	—	—
Fiery Printer controller/Printer I/F kit	AR-PE1/ AR-PX1/ AR-PX2	❍	—	—	—	—	—	—	—
Finisher	AR-FN4	—	—	—	—	—	—	—	—

❍: Possible ×: Not possible ▲: Possible; however, only operational in copy mode (does not operation in printer mode)

2. Block diagram



[2] SPECIFICATIONS

1. Basic specifications

(1) Type

Type	Console

Operation mode	Format
Copy mode	Full-color digital (electronic photographic)

(2) Target users

Mode	Volume of usage	
Copy mode	Scope	5,000 to 20,000 sheets/month
	Average copy volume	8,000 to 12,000 sheets/month

(3) External dimensions

	AR-C150/C250	AR-C100
Packaged	—	
Main unit	750 × 695 × 1010mm (29.5 × 27.4 × 39.8) (height: floor to glass surface) 750 × 695 × 1060mm (29.5 × 27.4 × 41.7) (height: floor to OC top surface)	725 × 695 × 1010mm (28.5 × 27.4 × 39.8) (height: floor to glass surface) 725 × 695 × 1060mm (28.5 × 27.4 × 41.7) (height: floor to OC top surface)

(4) Weight

	AR-C150/C250	AR-C100
Packaged	About 164.6Kg (363 lbs)	About 167.6Kg (370 lbs)
Main unit	152Kg (335 lbs)	155Kg (342 lbs)

(5) Machine life

Total (copy and print) volume	800,000 sheets
Lifetime	5 years

2. Operating specifications

A. Common operations

(1) Warm-up time/Jam recovery time

a. Warm-up time (ambient temp. of 20°C)

After turned on	AR-C100/C150	Max. 200 seconds
	AR-C250	Max. 330 seconds
Recovery from warm-up mode	AR-C100	130 seconds
	AR-C150/C250	30 seconds

b. Jam recovery time

Jam recovery time	Under 30 seconds (conditions: door open/fusing unit drawn)
	Under 8 seconds (conditions: door open)

B. Copy mode

(1) Document size

Scan mode	Paper type	Location	Dimensions		Paper size		Paper sizes	Note
			Min.	Max.	Min.	Max.		
Original stand mode	AB Series	Japan			B5	A3	A3, B4, A4, A4R, B5, B5R	
		Australia			A5		A3, A4, A4R, A5, 216 × 330mm	
		Other A					A3, B4, A4, A4R, A5	
		Other B			B5		A3, B4, A4, A4R, B5, B5R	
	Inch Series				8.5 × 5.5	11 × 17	11 × 17, 8.5 × 14, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5	
RADF mode	AB Series	Japan			A5	A3	A3, B4, A4, A4R, B5, B5R, A5	
		Australia					A3, A4, A4R, A5, 216 × 330mm, B4	
		Other A					A3, B4, A4, A4R, A5	
		Other B					A3, B4, A4, A4R, B5, B5R, A5	
	Inch Series				8.5 × 5.5	11 × 17	11 × 17, 8.5 × 14, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5	

(2) Paper size

Paper type	Dimensions		Paper size		Paper sizes	Note
	Min.	Max.	Min.	Max.		
AB Series	—	—	A6 (A6R) Postcard	A3 wide (305 × 457 mm)	A3 wide (305 × 457 mm) A3, B4, A4, A4R, B5, B5R, A5	
Inch Series	—	—	8.5 × 5.5	12 × 18	12 × 18, 11 × 17, 8.5 × 14, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5	

(3) Exposure

a. Exposure mode

(AR-C100/C150)

Copy mode				Model	Image process, gradation control	Note
Color		Text/Photo mode	Manual	AR-C100/C150	Area separation, filter process, dither pattern	
			Auto			Color blance, density fixed
		Text mode	Manual	AR-C150		
			Auto			Color blance, density fixed
		Printed Photo mode	Manual	AR-C150	Filter process, dither pattern	
		Photo mode	Manual	AR-C100/C150		
		Map mode	Manual	AR-C150		
Monochrome		Text/Photo mode	Manual	AR-C150	Area separation, filter process, dither pattern	
			Auto (Non pre-scan mode)	AR-C150		Pre-scan can be inhibited with the user program.
			Auto (Pre-scan mode)	AR-C150		
		Text mode	Manual	AR-C150		
			Auto (Non pre-scan mode)	AR-C150		Pre-scan can be inhibited with the user program.
			Auto (Pre-scan mode)	AR-C150		
		Printed Photo mode	Manual	AR-C150	Filter process, dither pattern	
		Photo mode	Manual	AR-C100/C150		
		Map mode	Manual	AR-C100/C150		

(AR-C250)

Copy mode				Model	Image process, gradation control	NOTE
Color	Copy document mode	Text/Printed Photo mode	Manual	AR-C250	Area separation, filter process, dither pattern	Pre-scan operation allowed
		Printed Photo mode	Manual	AR-C250	Filter process, dither pattern	Pre-scan operation allowed
		Text mode	Manual	AR-C250	Area separation, filter process, dither pattern	Pre-scan operation allowed
	Normal mode	Text mode	Manual	AR-C250	Area separation, filter process, dither pattern	
			Auto			Color balance, density fixed.
		Text/Printed Photo mode	Manual	AR-C250		
			Auto			Color balance, density fixed.
		Printed Photo mode	Manual	AR-C250	Filter process, dither pattern	
		Photo mode	Manual	AR-C250		
		Text/Photo mode	Manual	AR-C250	Area separation, filter process, dither pattern	
			Auto			Color balance, density fixed.
		Map mode	Manual	AR-C250	Filter process, dither pattern	
Monochrome	Copy document mode	Text/Printed Photo mode	Manual	AR-C250	Area separation, filter process, dither pattern	
		Printed Photo mode	Manual	AR-C250	Filter process, dither pattern	
		Text mode	Manual	AR-C250	Area separation, filter process, dither pattern	
	Normal mode	Text mode	Manual	AR-C250	Area separation, filter process, dither pattern	
			Auto (Non pre-scan mode)	AR-C250		Pre-scan oepration can be inhibited with the user program.
			Auto (Pre-scan mode)	AR-C250		
		Text/Printed Photo mode	Manual	AR-C250		
			Auto (Non pre-scan mode)	AR-C250		Pre-scan oepration can be inhibited with the user program.
			Auto (Pre-scan mode)	AR-C250		
		Printed Photo mode	Manual	AR-C250	Filter process, dither pattern	
		Photo mode	Manual	AR-C250		

Copy mode				Model	Image process, gradation control	NOTE
Monochrome	Normal mode	Text/Photo mode	Manual	AR-C250	Area separation, filter process, dither pattern	
			Auto (Non pre-scan mode)	AR-C250		Pre-scan oepration can be inhibited with the user program.
			Auto (Pre-scan mode)	AR-C250		
		Map mode	Manual	AR-C250	Filter process, dither pattern	

Models and copy mode

Models and the copy mode are shown below. The copy mode differs depending on the model.
The copy mode (Note *1) is substantially same as the copy mode (Note *2), and they differ in display.
Since the descriptions on the copy mode of the AR-C250 is the most accurate, refer to it.

Copy mode			AR-C250	AR-C150	AR-C100	Image process, gradation control	NOTE
Color	Copy document mode	Manual	TEXT/PRINTED PHOTO MODE			Area separation, filter process, dither pattern	Pre-scan operation allowed
		Manual	PRINTED PHOTO MODE			Filter process, dither pattern	Pre-scan operation allowed
		Manual	TEXT MODE			Area separation, filter process, dither pattern	Pre-scan operation allowed
	Normal mode	Manual	TEXT MODE	TEXT MODE		Area separation, filter process, dither pattern	
		Auto					Color balance, density fixed.
		Manual	TEXT/PRINTED PHOTO MODE (*1)	TEXT/PHOTO MODE (*2)	TEXT/PHOTO MODE (*2)		
		Auto					Color balance, density fixed.
		Manual	PRINTED PHOTO MODE	PRINTED PHOTO MODE		Filter process, dither pattern	
		Manual	PHOTO MODE	PHOTO MODE	PHOTO MODE		
		Manual	TEXT/PHOTO MODE			Area separation, filter process, dither pattern	
		Auto					Color balance, density fixed.
		Manual	MAP MODE	MAP MODE		Filter process, dither pattern	
Monochrome	Copy document mode	Manual	TEXT/PRINTED PHOTO MODE			Area separation, filter process, dither pattern	
		Manual	PRINTED PHOTO MODE			Filter process, dither pattern	
		Manual	TEXT MODE			Area separation, filter process, dither pattern	
	Normal mode	Manual	TEXT MODE	TEXT MODE		Area separation, filter process, dither pattern	
		Auto (Non pre-scan mode)					Pre-scan oepration can be inhibited with the user program.
		Auto (Pre-scan mode)					
		Manual	TEXT/PRINTED PHOTO MODE (*1)	TEXT/PHOTO MODE (*2)			
		Auto (Non pre-scan mode)					Pre-scan oepration can be inhibited with the user program.
		Auto (Pre-scan mode)					
		Manual	PRINTED PHOTO MODE	PRINTED PHOTO MODE		Filter process, dither pattern	
		Manual	PHOTO MODE	PHOTO MODE	PHOTO MODE		
		Manual	TEXT/PHOTO MODE			Area separation, filter process, dither pattern	
		Auto (Non pre-scan mode)					Pre-scan oepration can be inhibited with the user program.
		Auto (Pre-scan mode)					
		Manual	MAP MODE	MAP MODE	MAP MODE	Filter process, dither pattern	

b. Operation of COPY OF COPY mode (AR-C250)

When the COPY OF COPY mode is ON, the pre-scanning is provided.
The following table shows the relationship between each original mode and COPY OF COPY mode.

Copy mode		Color Copy		B/W Copy	
		COPY OF COPY mode ON	COPY OF COPY mode OFF	COPY OF COPY mode ON	COPY OF COPY mode OFF
AUTO	TEXT/PRTD.PHOTO	NO (Switch to Manual mode)	YES	NO (Switch to Manual mode)	YES
	TEXT/PHOTO	NO (Switch to Manual mode)	YES	NO (Switch to Manual mode)	YES
	TEXT	NO (Switch to Manual mode)	YES	NO (Switch to Manual mode)	YES
MANUAL	TEXT/PRTD.PHOTO	YES	YES	YES	YES
	TEXT/PHOTO	NO Key is not displayed	YES [COPY OF COPY] key is not displayed	NO Key is not displayed	YES [COPY OF COPY] key is not displayed
	PRINTED PHOTO	YES	YES	YES	YES
	PHOTO	NO Key is not displayed	YES [COPY OF COPY] key is not displayed	NO Key is not displayed	YES [COPY OF COPY] key is not displayed
	TEXT	YES	YES	YES	YES
	MAP	NO Key is not displayed	YES [COPY OF COPY] key is not displayed	NO Key is not displayed	YES [COPY OF COPY] key is not displayed

c. Resolution

- Read

Main scanning direction	Sub scanning direction
Basic resolution	Basic resolution
600dpi	600dpi

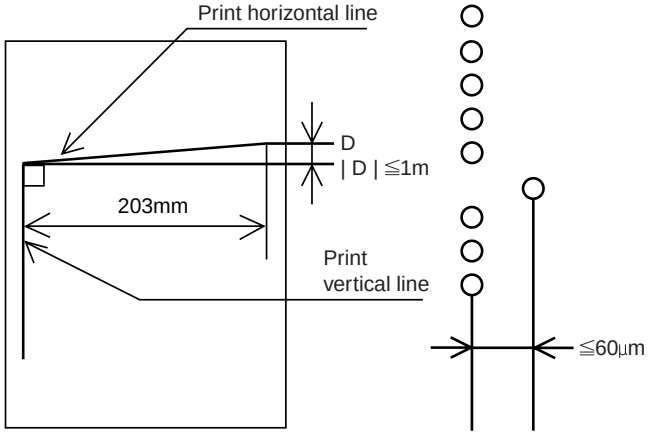
- Write

Main scanning direction	Sub scanning direction
Basic resolution	Basic resolution
600dpi	600dpi

d. Gradation/ image processing

Scanning	Printing
256 gradations (8bit)	256 gradations (8bit)

e. Distortion



f. Toner save mode

Toner save percentage	Approx 15%	＊ Can only be set for monochrome mode (set by key operator) (Set by simulation in Japan and the U.K.)

(4) Copy magnification

a. Copy magnification (independent magnification by direction is possible)

Main scanning direction		Sub scanning direction	
Mode	Magnification range/fixed magnification	Mode	Magnification range/fixed magnification
Zoom mode	25/50 to 400% ＊	Zoom mode	25/50 to 400%
Fixed magnification mode (AB Series)	25,50,70,81,86, 100,115,122,141, 200,400%	Fixed magnification mode (AB Series)	25,50,70,81,86, 100,115,122,141, 200,400%
Fixed magnification mode (Inch Series)	25,50,64,77,95, 100,121,129,141, 200,400%	Fixed magnification mode (Inch Series)	25,50,64,77,95, 100,121,129,141, 200,400%

＊ The minimum copy magnification for the AR-C100 is 50%.

b. Copy magnification precision

Main scanning direction		Sub scanning direction	
Copy magnification	Magnification precision	Copy magnification	Magnification precision
Normal copy	100%±0.8%	Normal copy	100%±0.8%
Enlargement copy	Set magnification ±1.0%	Enlargement copy	Set magnification ±1.0%
Reduction copy	Set magnification ±1.0%	Reduction copy	Set magnification ±1.0%

c. Zoom method

Main scanning direction	Performed through image processing
Sub scanning direction	Performed by changing image processing and scanning speed

(5) Job speed

Copy method for each copy mode

	Black-and-white copy		Color copy		A3 wide copy
	Up to A4/LT	B4/RG to A3/WLT	Up to A4/LT	B4/RG to A3/WLT	
Single-side copy	1 scan/multi-copy	1 scan/multi-copy	Multi scan/copy (AR-C150) 1 scan/multi copy (AR-C250)	Multi scan/copy (AR-C150) 1 scan/multi copy (AR-C250)	1 scan/multi copy (B&W) (AR-C250) Multi scan/copy (color) (AR-C250) Multi scan/copy (color/B&W) (AR-C150)
Duplex copy	1 scan/multi-copy	Multi scan/copy * (AR-C150) 1 scan/multi copy (AR-C250)	Multi scan/copy * (AR-C150) 1 scan/multi copy (AR-C250)	Multi scan/copy *	—

* No multi-copy mode, only single copy

a. First copy time

- Original stand mode (non SPF/ADF/RADF mode) (Unit: sec.)

Paper supply mode	Paper size	Color		Monochrome	
		AR-C150	AR-C250	AR-C150	AR-C250
Manual paper feed	8.5 × 11, A4 (Normal paper)	9.8		19.5	
	A4, 11 × 8.5 (OHP)	84.8		94.5	
	B5, A4, 11 × 8.5 (thick paper)	69.8	—	79.5	—
	B5, A4, 11 × 8.5 (thick paper) (Mode 1) (106 – 130g/m^2)	—	69.8	—	79.5
	B5, A4, 11 × 8.5 (thick paper) (Mode 2) (131 – 200g/m^2)	—	119.8	—	129.5
1st paper feed tray	A4	10.5	10.2	19.5	
	8.5 × 11	10.5	10.2	19.5	
2nd paper feed tray	A4	11.3	11.1	20.3	
	8.5 × 11	11.3	11.1	20.3	
3rd paper feed tray	A4	12.2	12.0	21.2	
	8.5 × 11	12.2	12.0	21.2	
4th paper feed tray	A4	13.1	12.9	22.1	
	8.5 × 11	13.1	12.9	22.1	
LCC	A4	10.2		19.5	
	8.5 × 11	10.2		19.5	

* 1st paper feed tray is installed for optional slot.

b. Multi-copy speed

(Conditions) Scanner speed: 15 cpm, using A4/letter standard paper, and no prescan

Conditions) S → S color: One copy of A4 (L1) original (10 sheets), no optional settings other than RADF, and not including fast copy

(AR-C150)

Copy mode		Paper size	Color			Monochrome		
			1 scan:1 copy			1 scan:Multiple copy		
			Copy magnification			Copy magnification		
			Reduction copy (25%)	Normal copy (100%)	Enlargement copy (400%)	Reduction copy (25%)	Normal copy (100%)	Enlargement copy (400%)
Original stand mode	S → S (1 – 3 paper feed tray)	A3	7	7	6	13	13	13
		A3 wide(12 × 18) (∗1)	7	7	6	7	7	7
		B4	9	9	8	15	15	15
		A4	15	15	12	25 (24)	25 (24)	25 (24)
		A4R	11	11	10	19	19	19
		A5	15	15	12	25	25	25
		B5	15	15	12	25	25 (∗26)	25 (∗26)
		B5R	11	11	10	19	19	19
		11 × 17	7	7	6	13	13	13
		8.5 × 14	9	9	8	15	15	15
		8.5 × 11	15	15	12	25	25	25
		8.5 × 11R	11	11	10	19	19	19
		8.5 × 5.5	15	15	12	25 (24)	25 (24)	25 (24)
		8.5 × 13/F.S	9	9	8	15	15	15
		A4, 11 × 8.5 (OHP)	10	10	10	10	10	10
		B5,A4,11×8.5 (thick paper)	10	10	10	10	10	10
		Other than B5, A4, 11 × 8.5 (thick paper)	5	5	5	5	5	5

The numbers in the parenthesis are the copy speeds when the 4th paper cassette is used.

∗: Only for Taiwan version

(AR-C250)

Copy mode		Paper size	Color			Monochrome		
			1 scan: Multiple copy (1 scan: 1 copy)			1 scan:Multiple copy		
			Copy magnification			Copy magnification		
			Reduction copy (25%)	Normal copy (100%)	Enlargement copy (400%)	Reduction copy (25%)	Normal copy (100%)	Enlargement copy (400%)
Original stand mode	S → S (1 – 3 paper feed tray)	A3	13	13	13	13	13	13
		A3 wide(12 × 18) (∗1)	7	7	7	7	7	7
		B4	15	15	15	15	15	15
		A4	25 (24)	25 (24)	25 (24)	25 (24)	25 (24)	25 (24)
		A4R	19	19	19	19	19	19
		A5	25	25	25	25	25	25
		B5	25	25	25	25	25	25
		B5R	19	19	19	19	19	19
		11 × 17	13	13	13	13	13	13
		8.5 × 14	15	15	15	15	15	15
		8.5 × 11	25	25	25	25	25	25
		8.5 × 11R	19	19	19	19	19	19
		8.5 × 5.5	25 (24)	25 (24)	25 (24)	25 (24)	25 (24)	25 (24)
		8.5 × 13/F.S	15	15	15	15	15	15
		A4, 11 × 8.5 (OHP)	10	10	10	10	10	10
		B5,A4,11×8.5 (thick paper)	10	10	10	10	10	10
		Other than B5, A4, 11 × 8.5 (thick paper)	5	5	5	5	5	5

The numbers in the parenthesis are the copy speeds when the 4th paper cassette is used.
(∗1): 1 scan:1 copy

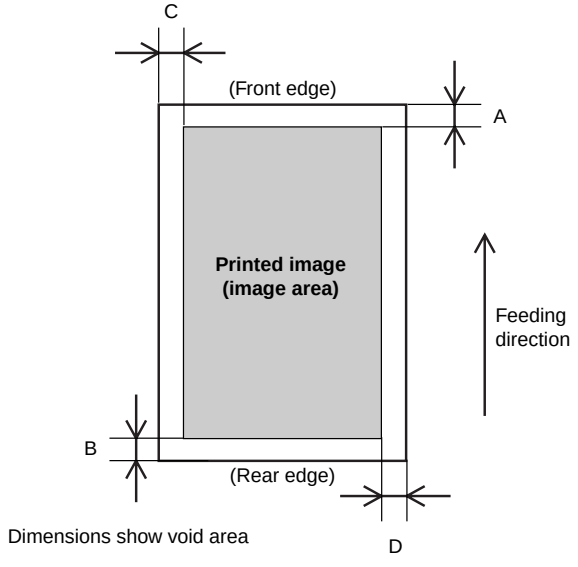
c. Maximum no. of copies

Multi max. quantity	999 sheets

- Maximum number of copies that can be set for each copy mode

	Black-and-white copy		Color copy		A3 wide copy
	Up to A4/LT	B4/RG to A3/WLT	Up to A4/LT	B4/RG to A3/WLT	
Single-side copy	999	999	999	999	999
Duplex copy	999	1 (AR-C150) 999 (AR-C250)	1 (AR-C150) 999 (AR-C250)	1	—

(6) Copy area



Dimensions show void area

Copy area	297 × 432mm

- Image loss

	Front edge (A)	Rear edge (B)	Total (C+D)	Left edge (C)	Right edge (D)
One side copy (excluding A3(11×17))	Max. 5mm	Max. 5mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm
One side copy for A3(11×17)	Max. 5mm	Max. 7mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm
Duplex copying	Max. 5mm	Max. 7mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm
OHP copying	Max. 10mm	Max. 10mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm

∗ 0mm image loss for A3 originals and A3 wide copying.

- Void area

	Front edge (A)	Rear edge (B)	Total (C+D)	Left edge (C)	Right edge (D)
One side copy (excluding A3(11×17))	Max. 5mm	Max. 5mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm
One side copy for A3(11×17)	Max. 5mm	Max. 7mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm
Duplex copying	Max. 5mm	Max. 7mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm
OHP copying	Max. 10mm	Max. 10mm	Max. 6mm	Max. 3.0mm	Max. 3.0mm

(7) Languages supported

Japanese, English (USA/UK), German, French, Spanish, Italian, Dutch, Swedish

(8) Internal auditor

Format	Key operation/card operation (optional)
No. of departments	400 (200 with card type)

3. Engine specifications

A. Operation (display/operation) section

Display	Large mono-color LCD display (AR-C150) Large color LCD display (AR-C250)
Operating procedure	Touch-panel input

B. Paper feeding, paper conveyance, and discharge section

(1) Paper feeding performance

a. Paper feed ability

Paper feed mode (section)	Feed method	Paper type	Location	Dimensions		Paper size			Paper weight	Capacity	Note
				Min.	Max.	Min.	Max.	Paper sizes			
Manual feed section (Multi paper feed)	—	AB Series	Japan	—	—	A6(A6R) Postcard	A3 wide (12 × 18)	A3 wide, A3, B4, A4, A4R, B5, B5R, A5, Postcard, 11 × 17, 8.5 × 14, 8.5 × 11 (Paper guide display: 11, 8.5, A3 wide, A3, B4, A4, A4R, B5, B5R, A5, A5R, B6R, A6R, Postcard)	60 to 200g/m² (16 to 55lbs.)	50 sheets (6mm) (max. 80g/m² paper)	Special paper (OHP film), (recommended product), Postcard and thick paper
			Others					A3 wide, A3, B4, A4, A4R, B5, A5, A6R, 11 × 17, 8.5 × 14, 8.5 × 11, 7.25 × 10.5R (Paper guide display: 11, 8.5, A3 wide, A3, B4, B5, A4R, A5, B5R, A5R)			Special paper (OHP film) and thick paper
		Inch Series		—	—	8.5 × 5.5	12 × 18	12 × 18, 11 × 17, 8.5 × 14, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5, 7.25 × 10.5R, A3, B4, A4, B5, A6R (Paper guide display: 12, 11, 8.5, 5.5, A3, B4, A4, B5)			
Manual feed section (Single paper feed)	—	AB Series	Japan	—	—	A6(A6R) Postcard	A3 wide (12 × 18)	A3 wide, A3, B4, A4, A4R, B5, B5R, A5, Postcard, 11 × 17, 8.5 × 14, 8.5 × 11 (Paper guide display: 11, 8.5, A3 wide, A3, B4, A4, A4R, B5, B5R, A5, A5R, B6R, A6R, Postcard)	60 to 200g/m² (16 to 55lbs.)	50 sheets (6mm) (max. 80g/m² paper)	Special paper (OHP film), Postcard and thick paper
			Others					A3 wide, A3, B4, A4, A4R, B5, A5, A6R, 11 × 17, 8.5 × 14, 8.5 × 11, 7.25 × 10.5R (Paper guide display:)			Special paper (OHP film) and thick paper
		Inch Series		—	—	8.5 × 5.5	12 × 18	12 × 18, 11 × 17, 8.5 × 14, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5, 7.25 × 10.5R, A3, B4, A4, B5, A6R (Paper guide display: 12, 11, 8.5, 5.5, A3, B4, A4, B5)			
1st to 4th cassette feeding unit	—	AB Series	Japan	—	—	A5	A3	A3, B4, A4, A4R, B5, B5R, A5, EXTRA	60 to 105g/m² (16 to 28lbs.)	500 sheets × 3 (4) (max. 80g/m² paper)	
			Others					A3, B4, A4, A4R, B5, A5, 8.5 × 11		500 sheets × 3 (4) (max. 80g/m² paper)	
		Inch Series		—	—	8.5 × 5.5	11 × 17	11 × 17, 8.5 × 14, 8.5 × 13, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5, A4, EXTRA			

b. Document detection

Paper feed mode (section)	Paper type	Location of use	Detection size	Paper detection size and detection method	Size switching method	Note
Manual feed section	AB Series	Japan	A3 wide, A3,B4,A4,A4R,B5,B5R,A5, Postcard, 11 × 17,8.5 × 14,8.5 × 11	Electrical resistance changes according to position of paper width guide (volume sensor)	Aligns with paper width guide (sliding type)	
		Others	A3 wide,A3,B4,A4,A4R,B5,A5,A6R, 11 × 17,8.5 × 14,8.5 × 11,7.25 × 10.5R			
	Inch Series		12 × 18,11 × 17,8.5 × 14,8.5 × 11, 8.5 × 11R,8.5 × 5.5,A3,B4,A4, B5,A6R,7.25 × 10.5R			
1st to 4th cassette feeding unit	AB Series	Japan	A3,B4,A4,A4R,B5,B5R,A5,EXTRA	Detection method by switch signal combination (switches paper detection block position)	Aligns universal guide (sliding type)	Remaining amount detector
		Others	A3,B4,A4,A4R,B5,A5,8.5 × 11,EXTRA			
	Inch Series		11 × 17,8.5 × 14,8.5 × 13,8.5 × 11, 8.5 × 11R,8.5 × 5.5,A4,EXTRA			

* When setting the paper size switch to EXTRA, it is necessary to set the paper size by key operation.
* For A and B sizes (excluding Japan), it is necessary to set the paper size switch to EXTRA for 13" and B5R.

(2) Finishing performance

Facing mode	Paper size	Paper weight	Capacity	Note
Face up	All paper sizes	All paper sizes that can be fed	250 sheets	

C. Scanner section

(1) Type

Scanning method	By 3-color (RGB) CCD image sensor

(2) Original standard position, scanning size, and scanning area

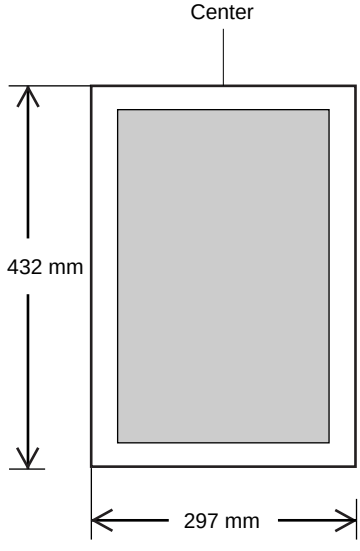
a. Original standard position

Left-center

b. Scanning size

Max. original size	AB Series	A3
	Inch Series	11 × 17

c. Scanning area



(3) Resolution

Main scanning direction	Sub scanning direction
Basic resolution	Basic resolution
600dpi	600dpi

(4) Gradation

	Input	Output
Monochrome	256 gradations (8bit)	256 gradations (8bit)
Color	256 gradations (8bit)	256 gradations (8bit)

(5) Scanning speed

Scan mode	Scan	Return	Scans per minute	Original size	
				A4 (11" × 8.5")	A3 (11" × 17")
Color	117 mm/sec	468 mm/sec	15 sheets/ min	15 sheets/ min	7 sheets/ min
Monochrome	117 mm/sec	468 mm/sec	15 sheets/ min	15 sheets/ min	7 sheets/ min

(6) Light source

Type	Halogen lamp
Drive voltage	70V
Power consumption	130W (AR-C150) 170W (AR-C250)

(7) Scanning sensor

Type	3-line color CCD

(8) Color separation method

Color separation by 3-color (RGB) CCD image sensor

D. Scanner section

(1) Type

Type	Laser scanning

(2) Laser unit specifications

Speed of rotation	27,600rpm
Mirror surfaces	6 surfaces
Laser power	5mW
Laser beam size	80μm
Laser wavelength	785μm
Scan width (sub scan direction)	AB Series: 420mm Inch Series: 432mm

(3) Resolution

Main scanning direction	Sub scanning direction
600dpi	600dpi

(4) Gradation

Monochrome	256 gradations (8bit)
Color	256 gradations (8bit)

E. Image processing section

(1) Imaging speed

117 mm/sec

(2) Photosensitive drum

Type	OPC ϕ40mm (4 pieces)(C, M, Y, K)
Life	40,000 sheets
Form	Cartridge

(3) Toner

	Black	Color (C, M, Y)
Type	—	
Capacity	600g	267g each (AR-C150) 300g each (AR-C250/C150)
Life (A4: each color 10%)	8,640 sheets (AR-C250/C150)	4,000 sheets each (AR-C150) 4,850 sheets each (AR-C250/C150)
Form	Cartridge	

(4) Developer

	Black	Color (C, M, Y)
Type	Ferrite type	
Capacity	650g	650g each
Life	40,000 sheets	40,000 sheets each

(5) Charging system

Charging system	DC negative scorotron (saw tooth electrode)
Voltage	–320V to –830V

(6) Exposure

Method	Exposure from laser diode

(7) Developing system

Developing system	Dry, 2-component magnetic brush development
Voltage	–120V to –600V

(8) Transfer

Method	DC positive static electricity transfer (transfer belt method)
Voltage	1.75 to 5KV

(9) Release

Method	Curvature release + releasing tabs

(10) Discharging

Method	Discharging lamp method

(11) Cleaning

Method	Blade method

(12) Toner compartment capacity

	Black	Color (C, M, Y)
Capacity	600g	267g (AR-C150) 300g (AR-C250/C150)
Printed sheets (10% density)	8K (AR-C150) 8.64K (AR-C250/C150)	4K (AR-C150) 4.85K (AR-C250/C150)

(13) Waste toner collector capacity

Capacity	—
Printed sheets	40K

(14) Correction functions

Correction functions	Toner density correction (toner density control level correction)
	Drum sensitivity correction (laser power control level correction)
	Transfer-ability correction (transfer voltage control level correction)
	Developing-ability correction (developing bias voltage control level correction)
	Halftone correction (laser power duty control level correction)

F. Fuser section

(1) Type

Fusing system	Heat roller system (oil usage)

(2) Lamp

Main unit voltage ratings	Lamp	Type	Lamp rating	
			Voltage	Power consumption
100V	Main heater lamp	Halogen lamp	100V	1000W
	Sub heater lamp	Halogen lamp	100V	700W
110V	Main heater lamp	Halogen lamp	—	—
	Sub heater lamp	Halogen lamp	—	—
120V	Main heater lamp	Halogen lamp	120V	1000W
	Sub heater lamp	Halogen lamp	120V	700W
127V	Main heater lamp	Halogen lamp	—	—
	Sub heater lamp	Halogen lamp	—	—
220 to 230V	Main heater lamp	Halogen lamp	230V	1300W
	Sub heater lamp	Halogen lamp	230V	700W
240V	Main heater lamp	Halogen lamp	230V	1300W
	Sub heater lamp	Halogen lamp	230V	700W

(3) Fuser temperature

(AR-C100/C150)

Mode			Control temperature									NOTE
			U.S.A	Canada	Inch	Japan	AB_B	Europe	U.K	Aus.	AB_A	
Ready condition	Ready condition control temperature (HL1)	Upper heat roller	187	187	187	177	177	187	187	187	187	
	Ready condition control temperature (HL2)	Lower heat roller	142	142	142	132	132	142	142	142	142	
Copy/Print mode	Normal mode control temperature (HL1)	Upper heat roller	180	180	180	170	170	180	180	180	180	
	Normal mode control temperature (HL2)	Lower heat roller	135	135	135	125	125	135	135	135	135	
	Thick paper mode control temperature (HL1)	Upper heat roller	200	200	200	200	200	200	200	200	200	AR-C150 only
	Thick paper mode control temperature (HL2)	Lower heat roller	155	155	155	155	155	155	155	155	155	AR-C150 only
	OHP mode control temperature (HL1)	Upper heat roller	180	180	180	180	180	180	180	180	180	AR-C150 only
	OHP mode control temperature (HL2)	Lower heat roller	175	175	175	175	175	175	175	175	175	AR-C150 only
Pre-heat mode	Energy saving mode control temperature (HL1)	Upper heat roller	140	140	140	140 (137)	140	140	140	140	140	( ) AR-C100
	Control temperature when resetting from pre-heat to B/W (HL1)	Upper heat roller	155	155	155	155 (152)	155	155	155	155	155	( ) AR-C100
Sleep mode	HL1	Upper heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	HL2	Lower heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

(AR-C250)

Mode			Control temperature									NOTE
			U.S.A	Canada	Inch	Japan	AB_B	Europe	U.K	Aus.	AB_A	
Ready condition	Ready condition control temperature (HL1)	Upper heat roller	177	177	177	177	177	177	177	177	177	
	Ready condition control temperature (HL2)	Lower heat roller	132	132	132	140	140	132	132	132	132	
Copy/Print mode	Normal mode control temperature (HL1)	Upper heat roller	170	170	170	170	170	170	170	170	170	
	Normal mode control temperature (HL2)	Lower heat roller	125	125	125	140	140	125	125	125	125	
	Thick paper mode 1 control temperature (HL1)	Upper heat roller	185	185	185	185	185	185	185	185	185	
	Thick paper mode 1 control temperature (HL2)	Lower heat roller	155	155	155	155	155	155	155	155	155	
	Thick paper mode 2 control temperature (HL1)	Upper heat roller	200	200	200	200	200	200	200	200	200	
	Thick paper mode 2 control temperature (HL2)	Lower heat roller	155	155	155	155	155	155	155	155	155	
	OHP mode control temperature (HL1)	Upper heat roller	180	180	180	180	180	180	180	180	180	
	OHP mode control temperature (HL2)	Lower heat roller	175	175	175	175	175	175	175	175	175	
Pre-heat mode	Energy saving mode control temperature (HL1)	Upper heat roller	136	136	136	136	136	136	136	136	136	
	Control temperature when resetting from pre-heat to B/W (HL1)	Upper heat roller	148	148	148	148	148	148	148	148	148	
Sleep mode	HL1	Upper heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	HL2	Lower heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

(4) Heat roller

Type	Silicone rubber roller	40ϕ (AR-C150) 50ϕ (AR-C250)
Life	40K	

(5) Pressure roller

Type	Silicone rubber roller	40ϕ (AR-C150) 50ϕ (AR-C250)
Life	40K	

(6) Release method

Forced release by releasing tabs

G. Drive section

Drive section	Motor name	Motor type
Toner hopper (C, M, Y, K)	Toner motor (Y, M, C, K)	Synchronous motor
Photosensitive drum (C, M, Y, K)	Drum motor (Y, M, C, K)	Stepping motor
Image scanner	Scanner motor	Stepping motor
Developing (C, M, Y, K)	Developing motor (Y, M, C, K)	DC brush-less motor
Paper feed and conveyance	Paper feed motor	DC brush-less motor
Transfer belt	Transfer belt motor	Stepping motor
Fusing	Fusing motor	DC brush-less motor

H. Engine controller

Processor	M68334

I. Image processing controller

Processor	MCF5202

J. Memory

Type	Capacity	Memory contents	Location
DRAM	128MB (AR-C150) 256MB (AR-C250)	Image data	ICU MAIN PWB
Flash ROM	32Mbit	Program data	ICU MAIN PWB
	16Mbit (AR-C150/C250) 8Mbit (AR-C100)	Program data	PCU PWB
	16Mbit (AR-C150) 16Mbit × 2 (AR-C250)	Program data	Operation control PWB
EEPROM	64Kbit (AR-C100) 256Kbit (AR-C150/C250)	Setting, adjustment, counter data, etc.	PCU PWB
	64Kbit	Setting, adjustment, counter data, etc.	ICU MAIN PWB

K. Power source

(1) DC power supply

Type		Output		
		Voltage	Capacity (current)	Note
DC power supply	Main	24V	15A	
		5.1V	7.5A	
		3.4V	5.5A	
	Sub	26V	0.5A	
		5V2	1.1A	
		5Vs	0.1A	

(2) Dehumidifier functionality

Section	Paper conveyor section (Japan only)	Image scanner section (optional outside of Japan)
Method	Surface heater * With ON/OFF switch	Surface heater

(3) Operating voltage/power consumption

Power supply voltage/frequency		Power consumption							
		Main unit				With full options			
		Preheat condition	Ready condition	Sleep mode condition	Max.	Preheat condition	Ready condition	Sleep mode condition	Max.
100V	50/60Hz	Max. 101W	—	Max. 10W	1500W	—	—	—	1500W
110V	50/60Hz	Max. 101W	—	Max. 10W	1500W	—	—	—	1500W
120V	50/60Hz	Max. 101W	—	Max. 10W	1500W	—	—	—	1500W
127V	50/60Hz	Max. 101W	—	Max. 10W	1500W	—	—	—	1500W
220 to 230V	50/60Hz	Max. 101W	—	Max. 10W	1800W	—	1175W	—	1800W
240V	50/60Hz	Max. 101W	—	Max. 10W	1800W	—	1325W	—	1800W

4. Safety and environmental protection standards

A. Safety standards

Item	Standard	Country
Safety standards	S Mark	Japan
	UL	U.S.A
	SEMKO	Sweden
	GS Mark	Germany
Environmental standards	FCC	U.S.A
	VCCI	Japan
	CE	Europe
	C-tick	Australia

B. Environmental standards

(1) Power consumption and environmental standards

Item	Standard	Country
Power consumption	Energy Star	Japan, U.S.A, Europe
	ECP, Nordic	Canada
Environmental standards	Swan, Nordic	Sweden

(2) Ozone level

Max. 0.02mg/m^3

(3) Noise level

Noise mode	Main unit		
	During operation	Ready condition	Sleep mode condition
Noise power level	Max. 66dB	Max. 40dB	—
Noise pressure level	—	—	—

5. Ambient conditions

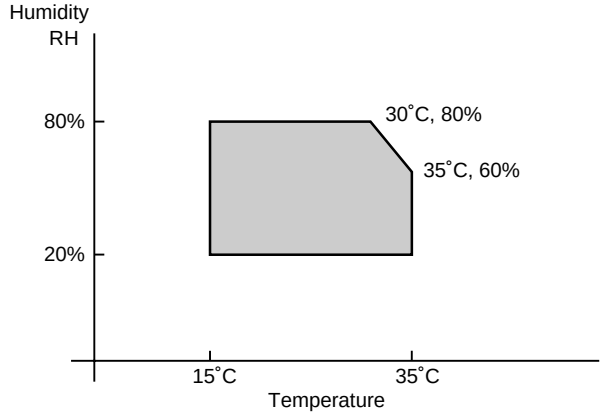
A. Space required

(1) Area required

	AR-C150/C250	AR-C100
Main unit	1412 × 695mm (55.6" × 27.4")	1220 × 695mm
With full options	(With AR-SS2) 1504 × 695mm (59.2" × 27.4") (With AR-FN4) 1690 × 695mm (66.6" × 27.4")	—

B. Operating ambient conditions

(1) Temperature/Humidity

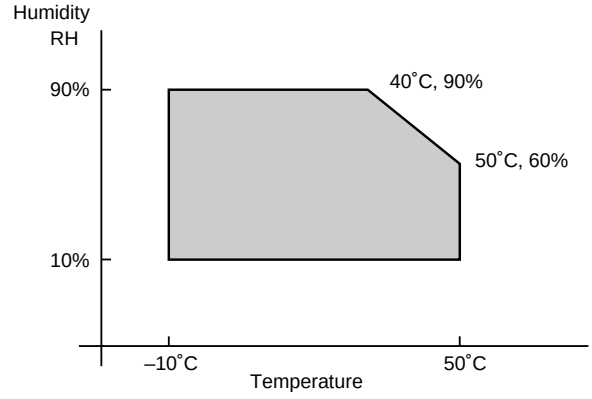


(2) Power supply voltage and frequency

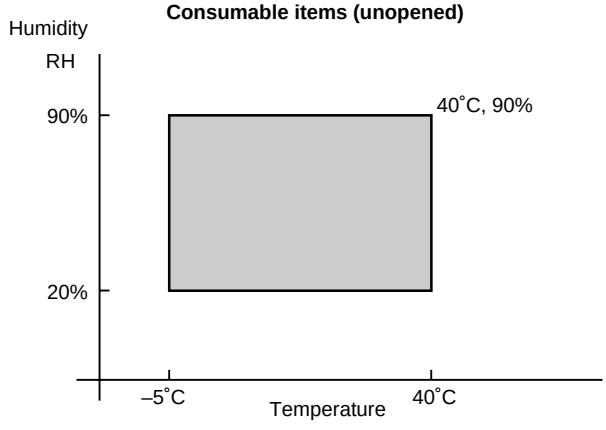
Power supply voltage	Rated voltage ±10%
Power supply frequency	Rated frequency ±2%

C. Ambient storage conditions

Main unit

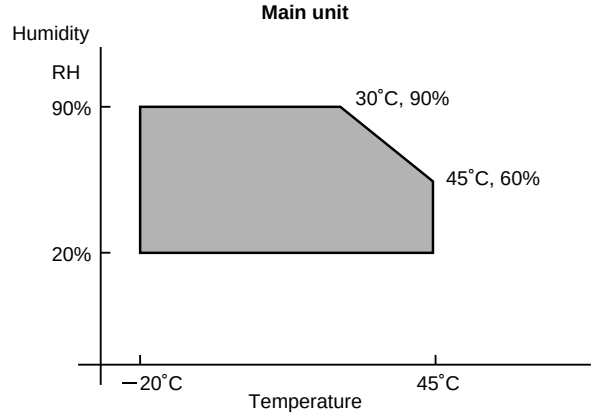


Consumable items (unopened)

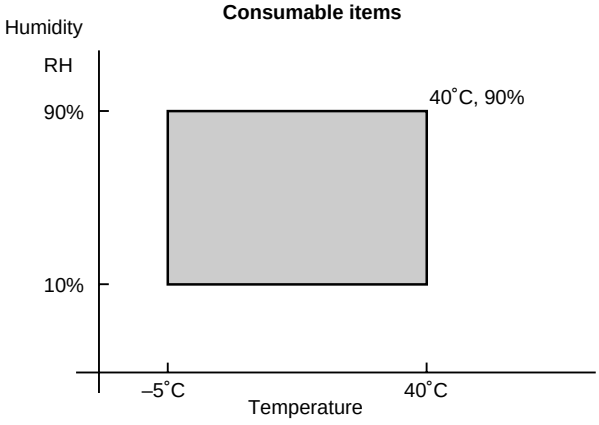


D. Ambient conditions for transporting

Main unit



Consumable items



E. Standard temperature and humidity

Temperature	20 to 25°C
Humidity	65 ± 5%

[3] CONSUMABLE PARTS

1. Consumable parts list

AR-C150 Supply List (U.S.A./CANADA)

	NAME	CONTENT(S)	LIFE Note 1)	Model	DIMENSIONS (W × D × H): mm /WHIGHT: kg	INCOMPATIBILITY	REMARK
1	Color Toner (cyan)	"Toner Cartridge (cyan) (267g), Instruction Sheet" × 10	4K Note 1) × 10	AR-C15MT6	329 × 590 × 218/5.62	A	(AR-C15NT6) × 10 = AR-C15MT6
2	Color Toner (magenta)	"Toner Cartridge (magenta) (267g), Instruction Sheet" × 10	4K Note 1) × 10	AR-C15MT7	329 × 590 × 218/5.62	A	(AR-C15NT7) × 10 = AR-C15MT7
3	Color Toner (yellow)	"Toner Cartridge (yellow) (267g), Instruction Sheet" × 10	4K Note 1) × 10	AR-C15MT8	329 × 590 × 218/5.62	A	(AR-C15NT8) × 10 = AR-C15MT8
4	Toner (black)	"Toner Cartridge (black) (600g), Instruction Sheet" × 10	8K Note 1) × 10	AR-C15MT1	429 × 610 × 246/10.97	A	(AR-C15NT1) × 10 = AR-C15MT1
5	Color Developer kit	[Developer (cyan × 1, magenta × 1, yellow × 1) (650g each) × 3	40K each × 3	AR-C15MD9	294 × 391 × 170/7.71		(AR-C15ND9) × 3 = AR-C15MD9
6	Black Developer kit	[Developer (black) (650g) × 1 × 10	40K × 10	AR-C15MD1	204 × 391 × 290/9.10		(AR-C15ND1) × 10 = AR-C15MD1
7	Drum Unit	Drum Unit × 1 (Drum/Unit Parts included) × 1 Color Seal (C, M, Y, Bk each × 2)	40K	AR-C15DU	402 × 568 × 198/6.73		Not applicable for AR-C250
8	Drum Kit	Drum × 1 Cleaning Blade × 1 Toner Receiving Seal × 1 Charger Unit × 1 Color Seal (C, M, Y, Bk each × 1)	40K	AR-C15DK	418 × 146 × 519/4.60		Not applicable for AR-C250

Note 1) A4 document with 10% coverage

Note 2) Inner carton printed in 2 languages including English and French

AR-C150/250 Supply List (U.S.A/Canada)

	NAME	CONTENT (S)	LIFE	MODEL	INCOMPATIBILITY	REMARK
1	Color Toner (cyan)	Toner Cartridge (cyan) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25MT6	A	(AR-C25NT6) × 10 = AR-C25MT6
2	Color Toner (magenta)	Toner Cartridge (magenta) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25MT7	A	(AR-C25NT7) × 10 = AR-C25MT7
3	Color Toner (yellow)	Toner Cartridge (yellow) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25MT8	A	(AR-C25NT8) × 10 = AR-C25MT8
4	Toner (black)	Toner Cartridge (black) (600g), Instruction Sheet × 10	8.64K × 10 Note 1)	AR-C25MT1	A	(AR-C25NT1) × 10 = AR-C25MT1
5	Color Developer kit	[Developer (cyan × 1, magenta × 1, yellow × 1) (650g each)] × 3	40K each color × 3	AR-C15MD9		(AR-C15ND9) × 3 = AR-C15MD9
6	Black Developer kit	[Developer (black) (650g) × 1] × 10	40K × 10	AR-C15MD1		(AR-C15ND1) × 10 = AR-C15MD1
7	Drum Unit	Drum Unit × 1 (Drum/Unit Parts included) × 1 Color Seal (C, M, Y, Bk each × 2)	40K	AR-C25DU		
8	Drum Kit	Drum × 1 Cleaning Blade × 1 Toner Receiving Seal × 1 Charger Unit × 1 Color Seal (C, M, Y, Bk each × 1)	40K	AR-C25DK		

Note 1) A4 document with 10% coverage

Note 2) Inner carton printed in 2 languages including English and French

AR-C150/C250 supply system (USA/Canada)

No.	Name	Content		Life	Model	Remark
1	Developer unit kit	Developer unit	× 4	—	AR-DW1	
2	Waste toner container kit	Drum waste toner container (AS) Transfer waste toner tank unit	× 1 × 1	40K	AR-C15HB	5% coverage of each of C/M/Y/K, total 20% coverage
3	Fusing oil	Fusing oil (800g)	× 10	40K × 10	AR-C15LL	AR-C15LL = AR-C15SL × 10
4	Upper heat roller kit	Upper heat roller unit Upper cleaning roller	× 1 × 1	40K	AR-C15UH AR-C25UH	For AR-C150 For AR-C250
5	Lower heat roller kit	Lower heat roller unit Fusing separation pawl lower	× 1 × 5	40K	AR-C15LH AR-C25LH	For AR-C150 For AR-C250
6	Fusing oil applying kit	Oil applying unit Oil filter unit Applying unit mini oil bottle	× 1 × 1 × 1	40K	AR-C15KH AR-C25KH	For AR-C150 For AR-C250
7	Filter kit	Process ozone filter Toner duct ozone filter Toner filter	× 2 × 1 × 1	80K	AR-C15FL	
8	Transfer belt kit	Transfer belt Belt separation pawl	× 1 × 2	160K	AR-C15TT	
9	Transfer roller kit	Transfer blade Transfer roller	× 1 × 4	80K	AR-C15TX	
10	Staple cartridge	Staple cartridge (SF-SC11)	× 3	5,000 × 3	SF-SC11	For AR-SS2. Common with FN1.
11	Fusing unit	Fusing unit (Except for motor, PWB, upper/lower lamps)	× 1		AR-C15FU AR-C25FU	(For servicing) For AR-C150 For AR-C250
12	Transfer unit	Transfer unit (Except for motor)	× 1		AR-C15TU	(For servicing)
13	DV seal kit	DV seal unit (assemble)	× 3	80K	AR-C15DS	
14	Staple cartridge	Staple cartridge		3,000 × 3	AR-SC1	For AR-FN4

AR-C150 Supply List (Europe/Australia/New Zealand)

	NAME	CONTENT(S)		LIFE Note 1)	Model	DIMENSIONS (W × D × H): mm /WHIGHT: kg	INCOMPATIBILITY	REMARK
1	Color Toner (cyan)	"Toner Cartridge (cyan) (267g), Instruction Sheet"	× 10	4K Note 1) × 10	AR-C15LT6	329 × 590 × 218/5.62	B	(AR-C15T6) × 10 = AR-C15LT6
2	Color Toner (magenta)	"Toner Cartridge (magenta) (267g), Instruction Sheet"	× 10	4K Note 1) × 10	AR-C15LT7	329 × 590 × 218/5.62	B	(AR-C15T7) × 10 = AR-C15LT7
3	Color Toner (yellow)	"Toner Cartridge (yellow) (267g), Instruction Sheet"	× 10	4K Note 1) × 10	AR-C15LT8	329 × 590 × 218/5.62	B	(AR-C15T8) × 10 = AR-C15LT8
4	Toner (black)	"Toner Cartridge (black) (600g), Instruction Sheet"	× 10	8K Note 1) × 10	AR-C15LT1	429 × 610 × 246/10.97	B	(AR-C15T1) × 10 = AR-C15LT1
5	Color Developer kit	[Developer (cyan × 1, magenta × 1, yellow × 1) (650g each)	× 3	40K each × 3	AR-C15LD9	294 × 391 × 170/7.71		(AR-C15DV9) × 3 = AR-C15LD9
6	Black Developer kit	[Developer (black) (650g) × 1	× 10	40K	AR-C15LD1	204 × 391 × 290/9.10		(AR-C15DV1) × 10 = AR-C15LD1
7	Drum Unit	Drum Unit (Drum/Unit Parts included) Color Seal (C, M, Y, Bk each × 2)	× 1 × 1	40K	AR-C15DU	402 × 568 × 198/6.73		Not applicable for AR-C250
8	Drum Kit	Drum Cleaning Blade Toner Receiving Seal Charger Unit Color Seal (C, M, Y, Bk each × 1)	× 1 × 1 × 1 × 1	40K	AR-C15DK	418 × 146 × 519/4.60		Not applicable for AR-C250

Note 1) A4 document with 10% coverage

Note 2) Inner carton printed in 4 languages

AR-C150/250 Supply List (Europe/Australia/New Zealand)

	NAME	CONTENT (S)	LIFE	MODEL	INCOMPATIBILITY	REMARK
1	Color Toner (cyan)	Toner Cartridge (cyan) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25LT6	B	(AR-C25T6) × 10 = AR-C25LT6
2	Color Toner (magenta)	Toner Cartridge (magenta) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25LT7	B	(AR-C25T7) × 10 = AR-C25LT7
3	Color Toner (yellow)	Toner Cartridge (yellow) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25LT8	B	(AR-C25T8) × 10 = AR-C25LT8
4	Toner (black)	Toner Cartridge (black) (600g), Instruction Sheet × 10	8.64K × 10 Note 1)	AR-C25LT1	B	(AR-C25T1) × 10 = AR-C25LT1
5	Color Developer kit	[Developer (cyan × 1, magenta × 1, yellow × 1) (650g each)] × 3	40K each color × 3	AR-C15LD9		(AR-C15DV9) × 3 = AR-C15LD9
6	Black Developer kit	[Developer (black) (650g) × 1] × 10	40K × 10	AR-C15LD1		(AR-C15DV1) × 10 = AR-C15LD1
7	Drum Unit	Drum Unit × 1 (Drum/Unit Parts included) × 1 Color Seal (C, M, Y, Bk each × 2)	40K	AR-C25DU		
8	Drum Kit	Drum × 1 Cleaning Blade × 1 Toner Receiving Seal × 1 Charger Unit × 1 Color Seal (C, M, Y, Bk each × 1)	40K	AR-C25DK		

Note 1) A4 document with 10% coverage

Note 2) Inner carton printed in 4 languages

AR-C150/C250 supply system (Europe/Australia/New Zealand)

No.	Name	Content	Life	Model	Remark
1	Developer unit kit	Developer unit × 4	—	AR-DW1	
2	Waste toner container kit	Drum waste toner container (AS) × 1 Transfer waste toner tank unit × 1	40K	AR-C15HB	5% coverage of each of C/M/Y/K, total 20% coverage
3	Fusing oil	Fusing oil (80g) × 10	40K × 10	AR-C15LL	AR-C15LL = AR-C15SL × 10
4	Upper heat roller kit	Upper heat roller unit × 1 Upper cleaning roller × 1	40K	AR-C15UH AR-C25UH	For AR-C150 For AR-C250
5	Lower heat roller kit	Lower heat roller unit × 1 Fusing separation pawl lower × 5	40K	AR-C15LH AR-C25LH	For AR-C150 For AR-C250
6	Fusing oil applying kit	Oil applying unit × 1 Oil filter unit × 1 Applying unit mini oil bottle × 1	40K	AR-C15KH AR-C25KH	For AR-C150 For AR-C250
7	Filter kit	Process ozone filter × 2 Toner duct ozone filter × 1 Toner filter × 1	80K	AR-C15FL	
8	Transfer belt kit	Transfer belt × 1 Belt separation pawl × 2	160K	AR-C15TT	
9	Transfer roller kit	Transfer blade × 1 Transfer roller × 4	80K	AR-C15TX	
10	Staple cartridge	Staple cartridge (SF-SC11) × 3	5,000 × 3	SF-SC11	For AR-SS2. Common with FN1.
11	Fusing unit	Fusing unit (Except for motor, PWB, upper/lower lamps) × 1		AR-C15FU AR-C25FU	(For servicing) For AR-C150 For AR-C250
12	Transfer unit	Transfer unit (Except for motor) × 1		AR-C15TU	(For servicing)
13	DV seal kit	DV seal unit (assemble) × 3	80K	AR-C15DS	
14	Staple cartridge	Staple cartridge	3,000 × 3	AR-SC1	For AR-FN4

AR-C150 Supply List (Asia/Central & South America/Middle East/others)

	NAME	CONTENT(S)	LIFE Note 1)	Model	DIMENSIONS (W × D × H): mm /WHIGHT: kg	INCOMPATIBILITY	REMARK
1	Color Toner (cyan)	"Toner Cartridge (cyan) (267g), Instruction Sheet" × 10	4K Note 1) × 10	AR-C15CT6	329 × 590 × 218/5.62	A	(AR-C15ST6) × 10 = AR-C15CT6
2	Color Toner (magenta)	"Toner Cartridge (magenta) (267g), Instruction Sheet" × 10	4K Note 1) × 10	AR-C15CT7	329 × 590 × 218/5.62	A	(AR-C15ST7) × 10 = AR-C15CT7
3	Color Toner (yellow)	"Toner Cartridge (yellow) (267g), Instruction Sheet" × 10	4K Note 1) × 10	AR-C15CT8	329 × 590 × 218/5.62	A	(AR-C15ST8) × 10 = AR-C15CT8
4	Toner (black)	"Toner Cartridge (black) (600g), Instruction Sheet" × 10	8K Note 1) × 10	AR-C15CT1	429 × 610 × 246/10.97	A	(AR-C15ST1) × 10 = AR-C15CT1
5	Color Developer kit	[Developer (cyan × 1, magenta × 1, yellow × 1) (650g each) × 3	40K each × 3	AR-C15CD9	294 × 391 × 170/7.71		(AR-C15SD9) × 3 = AR-C15CD9
6	Black Developer kit	[Developer (black) (650g) × 1 × 10	40K	AR-C15CD1	204 × 391 × 290/9.10		(AR-C15SD1) × 10 = AR-C15CD1
7	Drum Unit	Drum Unit × 1 (Drum/Unit Parts included) × 1 Color Seal (C, M, Y, Bk each × 2)	40K	AR-C15DU	402 × 568 × 198/6.73		Not applicable for AR-C250
8	Drum Kit	Drum × 1 Cleaning Blade × 1 Toner Receiving Seal × 1 Charger Unit × 1 Color Seal (C, M, Y, Bk each × 1)	40K	AR-C15DK	418 × 146 × 519/4.60		Not applicable for AR-C250

Note 1) A4 document with 10% coverage

Note 2) Inner carton printed in 4 languages

AR-C150/250 Supply List (Asia/Middle East/Central & South America/Others)

	NAME	CONTENT (S)	LIFE	MODEL	INCOMPATIBILITY	REMARK
1	Color Toner (cyan)	Toner Cartridge (cyan) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25CT6	A	(AR-C25ST6) × 10 = AR-C25CT6
2	Color Toner (magenta)	Toner Cartridge (magenta) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25CT7	A	(AR-C25ST7) × 10 = AR-C25CT7
3	Color Toner (yellow)	Toner Cartridge (yellow) (300g), Instruction Sheet × 10	4.85K × 10 Note 1)	AR-C25CT8	A	(AR-C25ST8) × 10 = AR-C25CT8
4	Toner (black)	Toner Cartridge (black) (600g), Instruction Sheet × 10	8.64K × 10 Note 1)	AR-C25CT1	A	(AR-C25ST1) × 10 = AR-C25CT1
5	Color Developer kit	[Developer (cyan × 1, magenta × 1, yellow × 1) (650g each)] × 3	40K each color × 3	AR-C15CD9		(AR-C15SD9) × 3 = AR-C15CD9
6	Black Developer kit	[Developer (black) (650g) × 1] × 10	40K × 10	AR-C15CD1		(AR-C15SD1) × 10 = AR-C15CD1
7	Drum Unit	Drum Unit × 1 (Drum/Unit Parts included) × 1 Color Seal (C, M, Y, Bk each × 2)	40K	AR-C25DU		
8	Drum Kit	Drum × 1 Cleaning Blade × 1 Toner Receiving Seal × 1 Charger Unit × 1 Color Seal (C, M, Y, Bk each × 1)	40K	AR-C25DK		

Note 1) A4 document with 10% coverage

Note 2) Inner carton printed in 4 languages

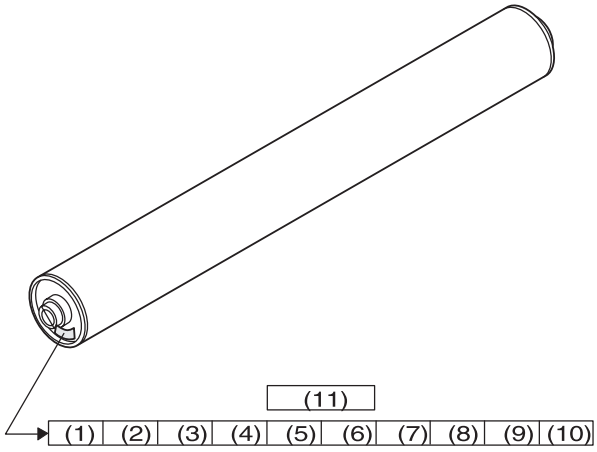
AR-C150/C250 supply system (Middle and South America/Middle East/Asia/others)

No.	Name	Content		Life	Model	Remark
1	Developer unit kit	Developer unit	× 4	—	AR-DW1	
2	Waste toner container kit	Drum waste toner container (AS)	× 1	40K	AR-C15HB	5% coverage of each of C/M/Y/K, total 20% coverage
		Transfer waste toner tank unit	× 1			
3	Fusing oil	Fusing oil (80g)	× 10	40K × 10	AR-C15LL	AR-C15LL = AR-C15SL × 10
4	Upper heat roller kit	Upper heat roller unit	× 1	40K	AR-C15UH AR-C25UH	For AR-C150 For AR-C250
		Upper cleaning roller	× 1			
5	Lower heat roller kit	Lower heat roller unit	× 1	40K	AR-C15LH AR-C25LH	For AR-C150 For AR-C250
		Fusing separation pawl lower	× 5			
6	Fusing oil applying kit	Oil applying unit	× 1	40K	AR-C15KH AR-C25KH	For AR-C150 For AR-C250
		Oil filter unit	× 1			
		Applying unit mini oil bottle	× 1			
7	Filter kit	Process ozone filter	× 2	80K	AR-C15FL	
		Toner duct ozone filter	× 1			
		Toner filter	× 1			
8	Transfer belt kit	Transfer belt	× 1	160K	AR-C15TT	
		Belt separation pawl	× 2			
9	Transfer roller kit	Transfer blade	× 1	80K	AR-C15TX	
		Transfer roller	× 4			
10	Staple cartridge	Staple cartridge (SF-SC11)	× 3	5,000 × 3	SF-SC11	For AR-SS2. Common with FN1.
11	Fusing unit	Fusing unit (Except for motor, PWB, upper/lower lamps)	× 1	40K	AR-C15FU AR-C25FU	(For servicing) For AR-C150 For AR-C250
12	Transfer unit	Transfer unit (Except for motor)	× 1		AR-C15TU	(For servicing)
13	DV seal kit	DV seal unit (assemble)	× 3	80K	AR-C15DS	
14	Staple cartridge	Staple cartridge		3,000 × 3	AR-SC1	For AR-FN4

2. Photoconductor, developer, toner

A. Serial number identification, effective life

(1) Photoconductor



(1) Figure
Indicates the sensitivity of the photoconductor.

(2) (3) Alphabet
Indicates the model code. This machine's code is PD.

(4) Figure
Indicates the end digit of the production year.

(5) Figure or X, Y, Z
Indicates the production month. X= October, Y= November, Z= December

(6) Figure
Indicates the production lot.

(7) Figure
Indicates the sub lot division.

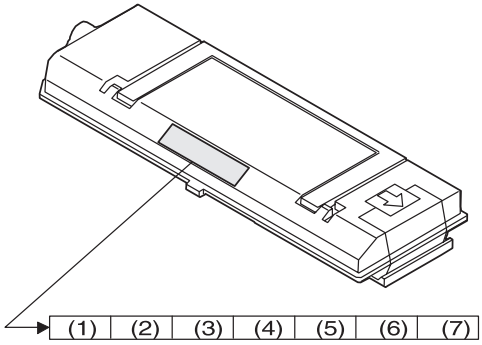
(8) Figure or X, Y, Z
Indicates the packing month. X= October, Y= November, Z= December

(9) (10) Figure
Indicates the packing date.

(11) Figure or alphabet
Indicates the product name of the drum.

Effective life: 36 months from the production date (month)

(2) Developer



(1) (2) Alphabet
Indicates the developer color as shown below:

Color	Alphabet
Yellow	YR
Magenta	MR
Cyan	CR
Black	KS

(3) Figure, alphabet
Indicates the production month. X= October, Y= November, Z= December

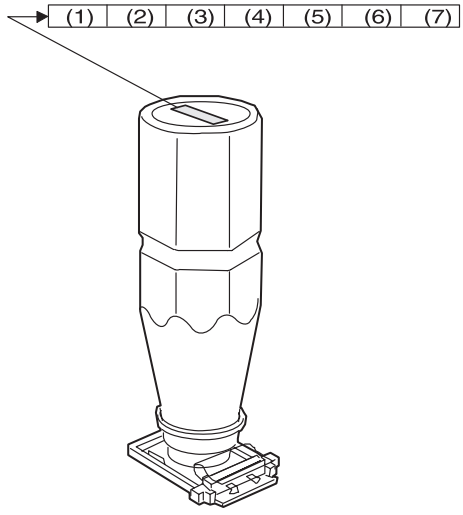
(4) (5) Figure
Indicates the production date.

(6) Figure
Indicates the end digit of the production year.

(7) Alphabet
Indicates the management code. (A to Z)

Effective life: 24 months from the production date (month)

(3) Toner



(1) (2) Alphabet
Indicates the toner color as shown below:

Color	Alphabet
Yellow	RY
Magenta	RM
Cyan	RC
Black	SK

(3) Figure, alphabet
Indicates the production month. X= October, Y= November, Z= December

(4) (5) Figure
Indicates the production date.

(6) Figure
Indicates the end digit of the production year.

(7) Alphabet
Indicates the management code. (A to Z)

Effective life: 24 months from the production date (month)

3. Paper

(1) Color print paper

The recommendable color print paper is shown below.

Use of the recommendable paper provides the best copy quality. The standard paper follows it.

Kind	Model	Supplier	Specification	Note
Recommend paper	Hammermill LASER PRINT	Hammermill	[11 × 8.5", 90g/m^2] [11 × 17", 90g/m^2]	
	Neusiedler Color Copy (90g/m^2)	Neusiedler	[A4, 90g/m^2] [A3, 90g/m^2]	
Standard paper	Necosa	Necosa	[11 × 8.5", 75g/m^2] [11 × 17", 75g/m^2]	
	Igepa	Igepa	[A4, 80g/m^2] [A3, 80g/m^2]	
OHP sheet (Specified paper)	BG74.6	FOREX	A4 size, 140g/m^2	Made by FOLEX

When paper of low white level is used, normal copy quality (color reproduction) may not be obtained.
For OHP sheet, be sure to use the specified one.

(2) Monochrome print paper

For monochrome print, the following specifications serve as the criteria of applicable or not.

(Values are under 20 ± 1°C, 65 ± 2%RH)

Item	Standard paper	Applicable paper
Weight	60 – 90g/m^2	60 – 120g/m^2
Smoothness	Front: ≥ 20s Back : ≥ 20s (BEEK method)	Front: ≥ 20s Back : ≥ 18s (BEEK method)
Vesicularity	≥ 7s (BEEK method)	Same as the left.
Untransparency	≥ 77%	Same as the left.
Surface resistance	1×10^{10} – 5×10^{10}Ωcm (20 ± 1°C, 65 ± 2%RH)	≥ 5.0×10^{8}Ωcm (20 ± 1°C, 65 ± 2%RH)
Hardness	Vertical: ≥ 17cm Horizontal: ≥ 13cm (CLARK method)	Same as the left.
Water content	4.5 % – 7.0%	Same as the left.
Thickness	75µm – 110µm	Same as the left.
Dimensions	Standard ± 1mm (*)	Same as the left.

(3) Print paper dimension specification

(*) Standard dimensions are as follows:

B5 (182 ± 1 × 257 ± 1mm)
B6 (128 ± 1 × 182 ± 1mm)
A4 (210 ± 1 × 297 ± 1mm)
A5 (148 ± 1 × 210 ± 1mm)
A6 (105 ± 1 × 148 ± 1mm)
8.5" ± 5/128 × 14" ± 5/128 inch
8.5" ± 5/128 × 11" ± 5/128 inch
8.5" ± 5/128 × 8.5" ± 5/128 inch
8.5" ± 5/128 × 13" ± 5/128 inch

(Note)

(Paper which cannot be used)

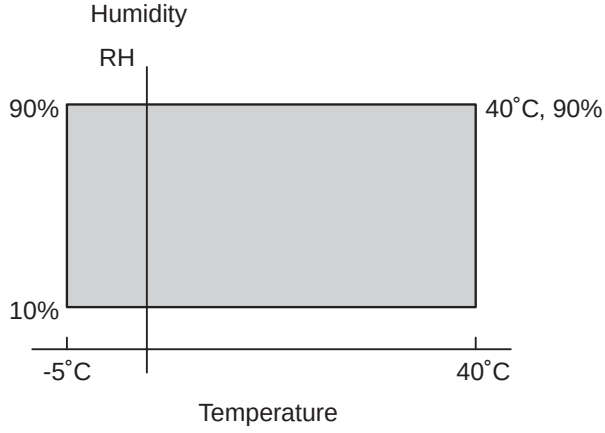
The following paper cannot be used for printing.

- Paper with coated surface
- Paper with rough surface, or too smooth surface
- Documents which are separated from a pasted book
- Broken paper, folded paper, embossed paper, dry paper, wet paper, curled paper
- Paper with metal tab or clip
- Paper with holes, cutout, or perforations

4. Environmental conditions

(1) Transit environment (sealed)

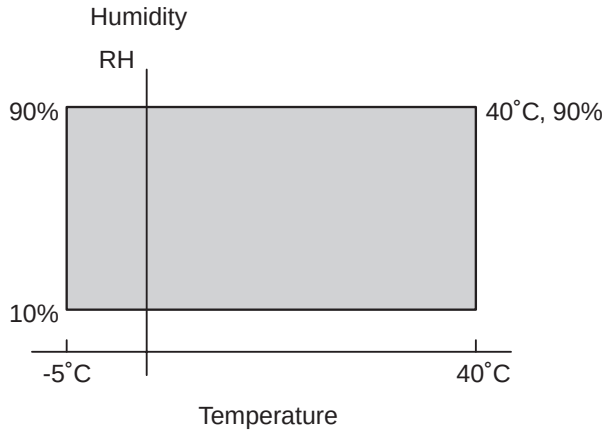
Max. change: Temperature 15°C/hour,
Relative humidity 15%RH/hour, without dew



Tempera-ture (min)	Humidity (min)	Tempera-ture (mid)	Humidity (mid)	Tempera-ture (max)	Humidity (max)	Period
–5°C	10%			40°C	90%	—

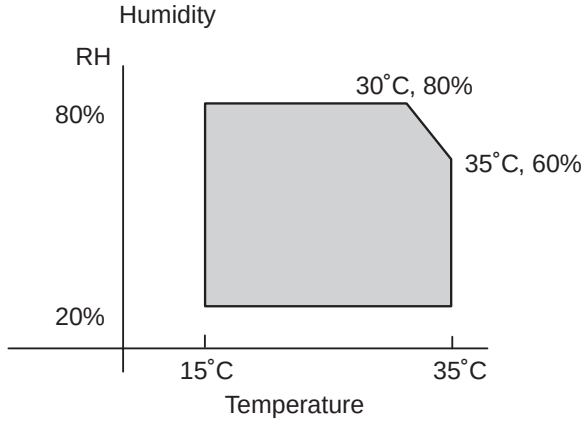
(2) Storage environment (sealed)

Max. change: Temperature 15°C/hour,
Relative humidity 15%RH/hour, without dew



Tempera-ture (min)	Humidity (min)	Tempera-ture (mid)	Humidity (mid)	Tempera-ture (max)	Humidity (max)	Period
–5°C	10%			40°C	90%	—

(Unsealed condition)



Tempera-ture (min)	Humidity (min)	Tempera-ture (mid)	Humidity (mid)	Tempera-ture (max)	Humidity (max)	Period
15°C	20%	30°C	60%	35°C	90%	—

[6] MACHINE OPERATIONS

1. Operation mode

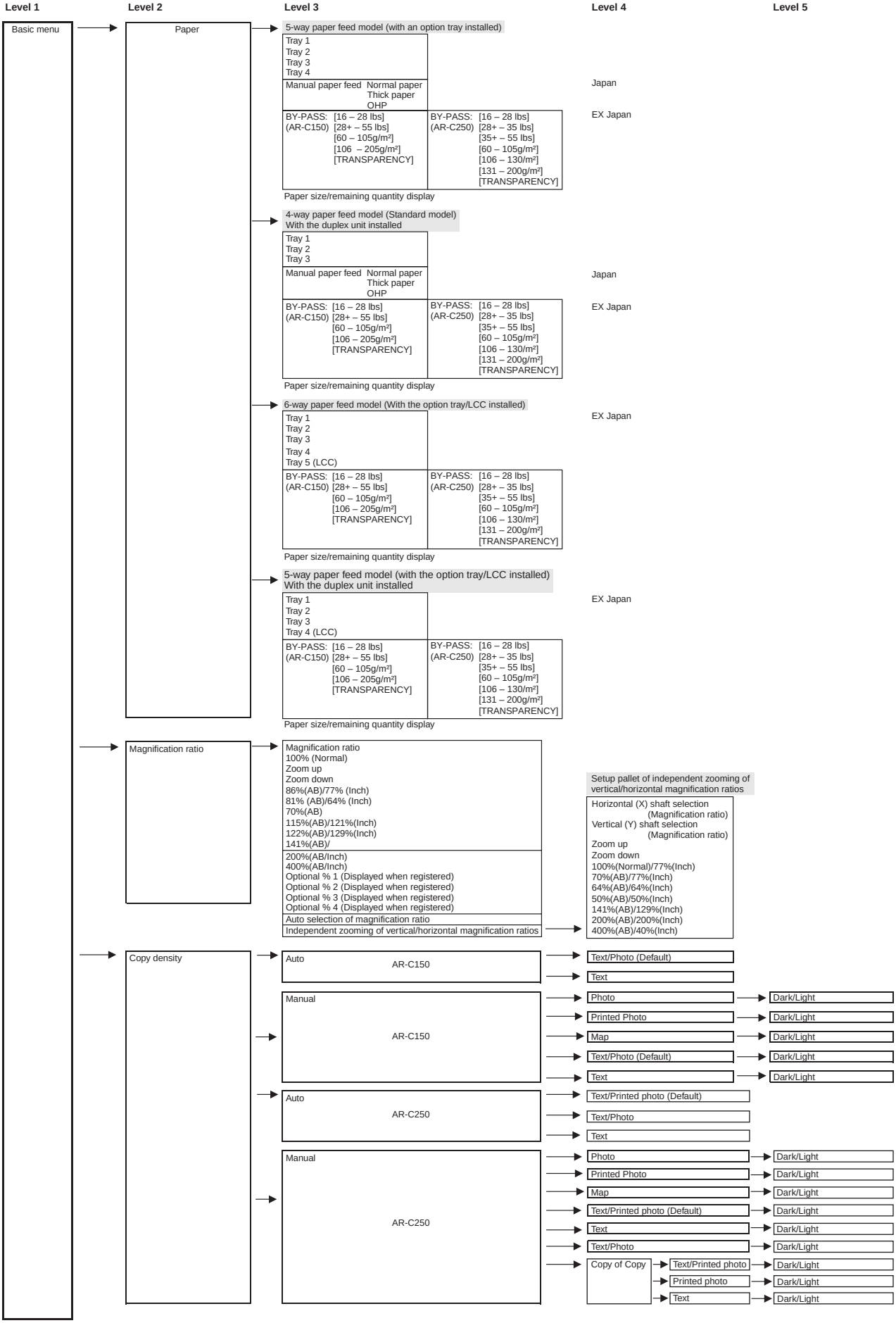
This machine has the following operation modes.

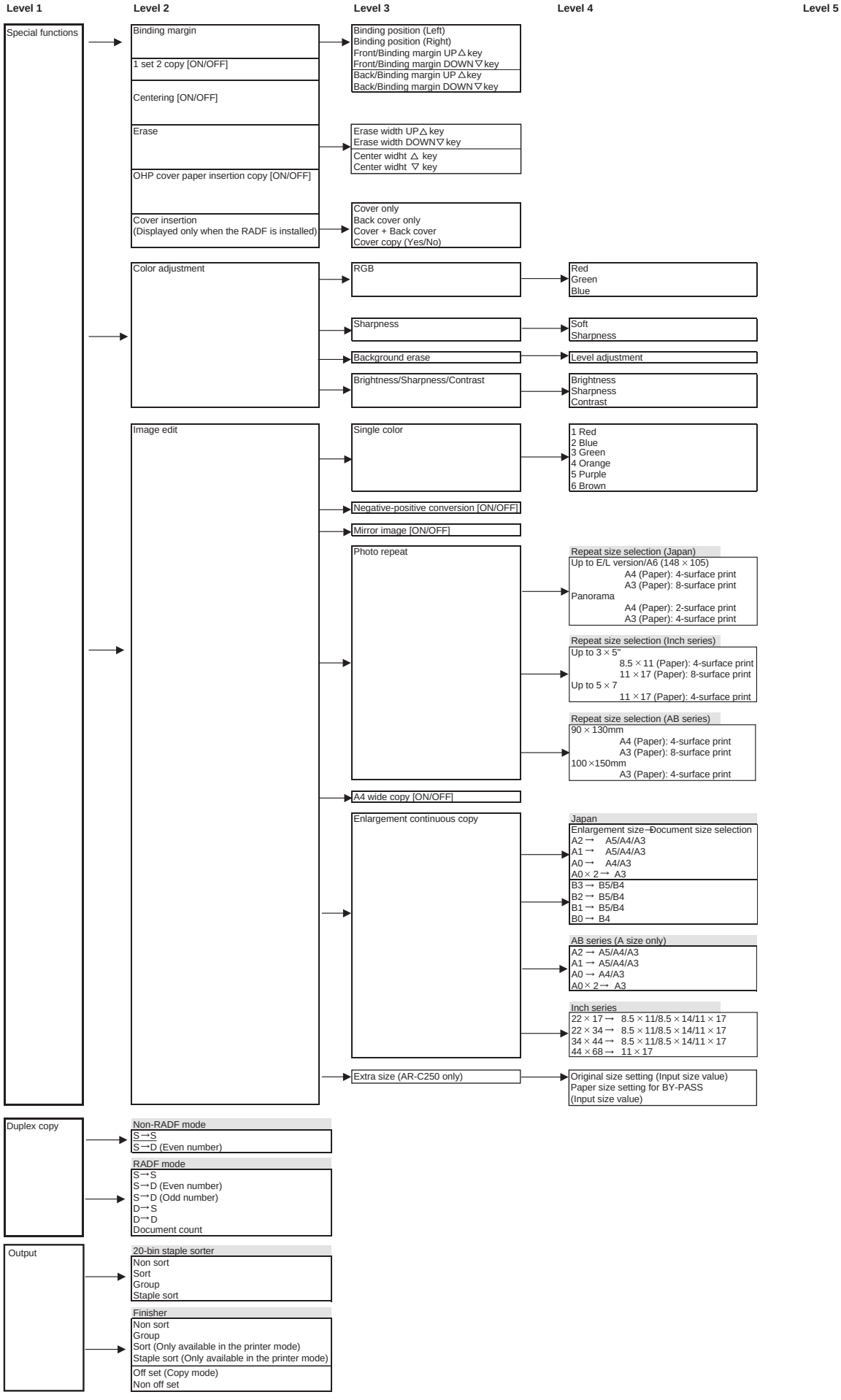
Mode		Contents
Copy mode	Basic operation mode	Used to select paper and set the copy magnification ratio and copy density, etc.
	Special function mode	Used to edit images and adjust color.
	Duplex copy mode	Used to make various setups of duplex copy mode.
	Finishing mode	Used to make various setups related to the sorter.
	Job program mode	Used to preset the copy operation conditions.
	User setup mode	Used to make setup of the specifications according to the user's needs.
	Operation guidance mode	Help menu (Displays the operational descriptions on copying.)
Printer mode		Uses the print server (option) to perform as a printer.
Power save mode	Pre-heat mode	Used to lower the fusing temperature, saving the power consumption.
	Sleep mode	Used to stop the sections except for the control PWB section.
Simulation mode		Used in servicing to set, adjust, and check operations.

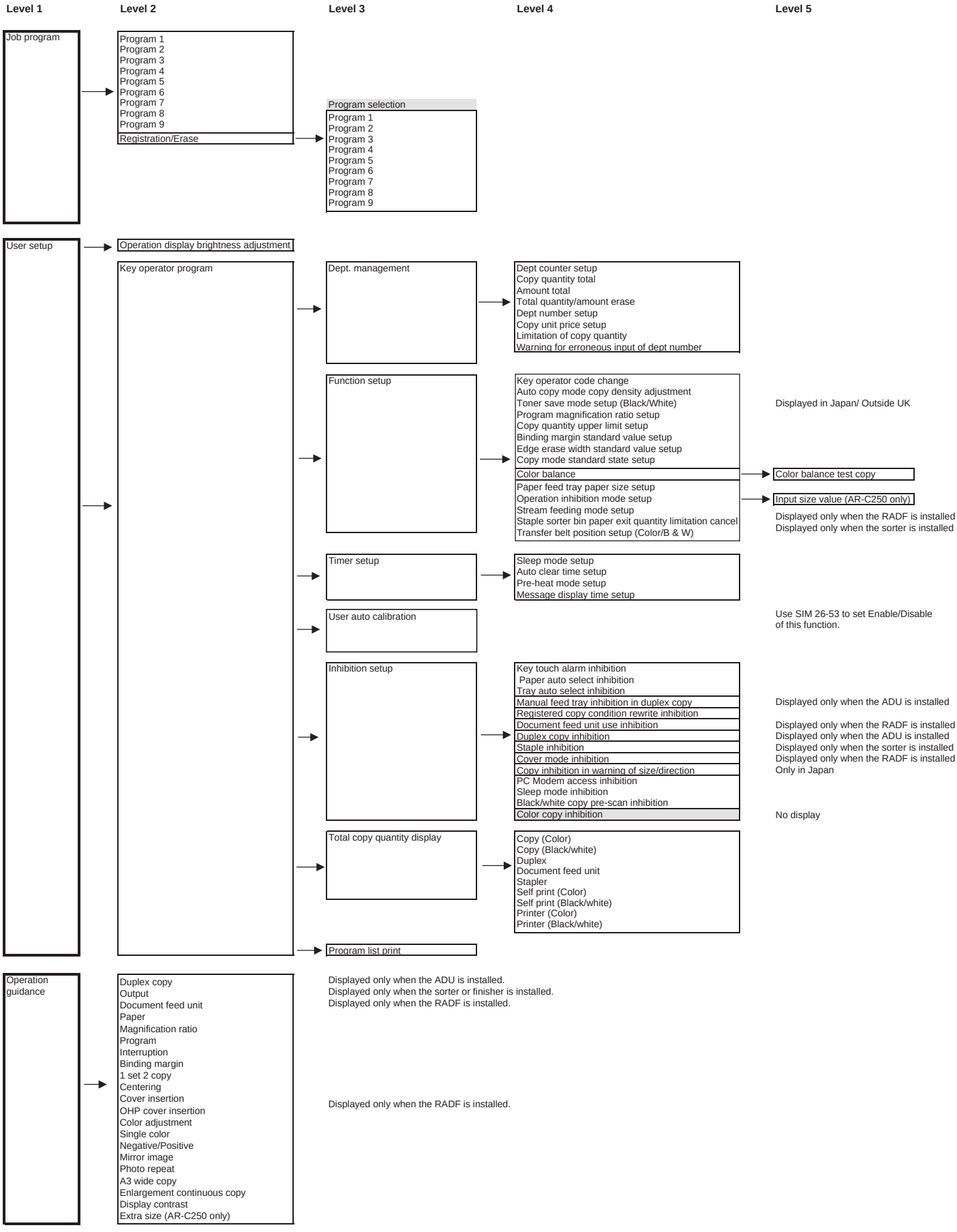
2. Operation menu

This machine has the following operation menus.
These operation menus differ depending on installation of options and the configurations.

AR-C150/C250 Operation Menus




Level 1
Level 2
Level 3
Level 4
Level 5
Special functions
Binding margin
Binding position (Left)
Binding position (Right)
Front/Binding margin UP △ key
Front/Binding margin DOWN ▽ key
Back/Binding margin UP △ key
Back/Binding margin DOWN ▽ key
1 set 2 copy [ON/OFF]
Centering [ON/OFF]
Erase
Erase width UP △ key
Erase width DOWN ▽ key
Center widht △ key
Center widht ▽ key
OHP cover paper insertion copy [ON/OFF]
Cover insertion
(Displayed only when the RADF is installed)
Cover only
Back cover only
Cover + Back cover
Cover copy (Yes/No)
Color adjustment
RGB
Red
Green
Blue
Sharpness
Soft
Sharpness
Background erase
Level adjustment
Brightness/Sharpness/Contrast
Brightness
Sharpness
Contrast
Image edit
Single color
1 Red
2 Blue
3 Green
4 Orange
5 Purple
6 Brown
Negative-positive conversion [ON/OFF]
Mirror image [ON/OFF]
Photo repeat
Repeat size selection (Japan)
Up to E/L version/A6 (148 × 105)
A4 (Paper): 4-surface print
A3 (Paper): 8-surface print
Panorama
A4 (Paper): 2-surface print
A3 (Paper): 4-surface print
Repeat size selection (Inch series)
Up to 3 × 5"
8.5 × 11 (Paper): 4-surface print
11 × 17 (Paper): 8-surface print
Up to 5 × 7
11 × 17 (Paper): 4-surface print
Repeat size selection (AB series)
90 × 130mm
A4 (Paper): 4-surface print
A3 (Paper): 8-surface print
100 × 150mm
A3 (Paper): 4-surface print
A4 wide copy [ON/OFF]
Enlargement continuous copy
Japan
Enlargement size→Document size selection
A2 → A5/A4/A3
A1 → A5/A4/A3
A0 → A4/A3
A0 × 2 → A3
B3 → B5/B4
B2 → B5/B4
B1 → B5/B4
B0 → B4
AB series (A size only)
A2 → A5/A4/A3
A1 → A5/A4/A3
A0 → A4/A3
A0 × 2 → A3
Inch series
22 × 17 → 8.5 × 11/8.5 × 14/11 × 17
22 × 34 → 8.5 × 11/8.5 × 14/11 × 17
34 × 44 → 8.5 × 11/8.5 × 14/11 × 17
44 × 68 → 11 × 17
Extra size (AR-C250 only)
Original size setting (Input size value)
Paper size setting for BY-PASS
(Input size value)
Duplex copy
Non-RADF mode
S→S
S→D (Even number)
RADF mode
S→S
S→D (Even number)
S→D (Odd number)
D→S
D→D
Document count
Output
20-bin staple sorter
Non sort
Sort
Group
Staple sort
Finisher
Non sort
Group
Sort (Only available in the printer mode)
Staple sort (Only available in the printer mode)
Off set (Copy mode)
Non off set

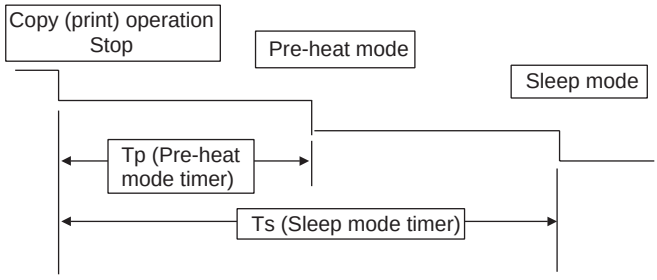

Level 1
Level 2
Level 3
Level 4
Level 5
Job program
Program 1
Program 2
Program 3
Program 4
Program 5
Program 6
Program 7
Program 8
Program 9
Registration/Erase
Program selection
Program 1
Program 2
Program 3
Program 4
Program 5
Program 6
Program 7
Program 8
Program 9
User setup
Operation display brightness adjustment
Key operator program
Dept. management
Dept counter setup
Copy quantity total
Amount total
Total quantity/amount erase
Dept number setup
Copy unit price setup
Limitation of copy quantity
Warning for erroneous input of dept number
Function setup
Key operator code change
Auto copy mode copy density adjustment
Toner save mode setup (Black/White)
Program magnification ratio setup
Copy quantity upper limit setup
Binding margin standard value setup
Edge erase width standard value setup
Copy mode standard state setup
Color balance
Paper feed tray paper size setup
Operation inhibition mode setup
Stream feeding mode setup
Staple sorter bin paper exit quantity limitation cancel
Transfer belt position setup (Color/B & W)
Displayed in Japan/ Outside UK
Color balance test copy
Input size value (AR-C250 only)
Displayed only when the RADF is installed
Displayed only when the sorter is installed
Timer setup
Sleep mode setup
Auto clear time setup
Pre-heat mode setup
Message display time setup
User auto calibration
Use SIM 26-53 to set Enable/Disable of this function.
Inhibition setup
Key touch alarm inhibition
Paper auto select inhibition
Tray auto select inhibition
Manual feed tray inhibition in duplex copy
Registered copy condition rewrite inhibition
Document feed unit use inhibition
Duplex copy inhibition
Staple inhibition
Cover mode inhibition
Copy inhibition in warning of size/direction
PC Modem access inhibition
Sleep mode inhibition
Black/white copy pre-scan inhibition
Color copy inhibition
Displayed only when the ADU is installed
Displayed only when the RADF is installed
Displayed only when the ADU is installed
Displayed only when the sorter is installed
Displayed only when the RADF is installed
Only in Japan
No display
Total copy quantity display
Copy (Color)
Copy (Black/white)
Duplex
Document feed unit
Stapler
Self print (Color)
Self print (Black/white)
Printer (Color)
Printer (Black/white)
Program list print
Operation guidance
Duplex copy
Output
Document feed unit
Paper
Magnification ratio
Program
Interruption
Binding margin
1 set 2 copy
Centering
Cover insertion
OHP cover insertion
Color adjustment
Single color
Negative/Positive
Mirror image
Photo repeat
A3 wide copy
Enlargement continuous copy
Display contrast
Extra size (AR-C250 only)
Displayed only when the ADU is installed.
Displayed only when the sorter or finisher is installed.
Displayed only when the RADF is installed.
Displayed only when the RADF is installed.
Toner supply
(The menu display and "Operation Guidance"/"Toner supply" key are displayed only when toner concentration is decreased.)
Toner empty
(When the information key is pressed when in toner empty, the toner supply guidance is displayed.)
Waste toner full
(When the information key is pressed when in waste toner full, the waste toner collection paper replacement guidance is displayed.)

3. Pre-heat mode and sleep mode operations

A. Operation timing

This machine has a pre-heat mode and a sleep mode to save the power consumption when copying (printing) is not performed.
The shift timing to the pre-heat mode and the sleep mode can be set with the user program with the non-operating state as the start point.
The timing of the two modes can be separately set. It is possible to shift from the normal mode directly to the sleep mode without passing through the pre-heat mode.

Operation timing in the pre-heat mode and the sleep mode



Tp and Ts are set by the user program.

Timer	Set time
TP	10 - 240min
Ts	10 - 240min

(Pre-heat mode cancel conditions)

In the following cases, the pre-heat mode is canceled.

Control section	Phenomenon	NOTE
Operation section	Key input other than 10-key (Including Key ON)	
Auditor section	Card insertion (Only in the card counter mode) (Japan only)	
	Coin insertion (Only in the coin vendor mode) (Japan only)	
Original size sensor section	Original size change (Including Original Empty → Presence, Presence → Empty)	
RADF section	RADF original size change (Including Original Empty → Presence, Presence → Empty)	
Paper tray section		
Finishing		
Copy	Copying	
Self print		
Printer control	Printer operation	
Scanner (reading)	Scanner operation	

(Sleep mode cancel condition)

In the following cases, the sleep mode is canceled.

Copy	Copying	NOTE
Self print		
Printer control	Printer operation	
Scanner (reading)	Scanner operation	

(Sleep mode shift timing extending condition)

When the non-operation of copying and printing continues and the following case occurs within 10 min of entering the sleep mode, set the sleep mode timer to 10 min again, and extend the shift timing to the sleep mode.

Control section	Phenomenon	NOTE
Operation section	Key input other than 10-key (Including Key ON)	
Auditor section	Card insertion (Only in the card counter mode) (Japan only)	
	Coin insertion (Only in the coin vendor mode) (Japan only)	
Original size detection (Original size sensor section)	Original size change (Including Original Empty → Presence, Presence → Empty)	
RADF section	RADF original size change (Including Original Empty → Presence, Presence → Empty)	
Paper tray section	Paper tray attachment/ detachment detection, Paper tray lift operation	
Finishing (sorter)	Staple execution, (Front take-up execution)	
Copy	Copying	
Self print	Self printing	
Printer control	Printer operation	
Scanner (reading)	Scanner operation	

B. Pre-heat mode and sleep mode operations

(1) Control unit operations in the pre-heat mode and the sleep mode

a. Operation (operation panel) section

Mode	Operation		NOTE
Sleep	LCD display	Does not display.	
	LED lights up.	Printer/Copy : Light up. Start, interruption, data, online: Does not light up.	
	Key	Printer/Copy key: Valid Other keys: Invalid	
	Original detection	Original size sensor: Does not operate. Original cover open/close detection: Does not operate	
	Card reader	Does not operate.	Japan only
Pre-heat mode	All load operations possible		
Normal			

b.PCU PWB

Mode	Operates.	NOTE
Sleep	Does not operate.	
Preheat	Refer to "d. Signals controlled by the PCU PWB in the pre-heat mode".	
Normal	Operates.	

c.ICU PWB

Mode	Operates.	NOTE
Sleep	Does not operate.	
Low power		
Normal	Operates.	

(Signals controlled by the PCU PWB in the pre-heat mode)

Section	Signal name	Content	Operation in the pre-heat mode
Manual paper feed	MPWS	Manual feed width detection	Does not operate.
	MPLD1	Manual feed length detection	
	MPLD2	Manual feed length detection	
	MTOP1	Manual feed tray pull-out detection	
	MTOP2	Manual feed tray pull-out detection	
	MPED	Manual feed paper empty detection	
Paper feed tray	C*SS1	Paper size detection	Does not operate.
	C*SS2	Paper size detection	
	C*SS3	Paper size detection	
	C*SS4	Paper size detection	
	PED*	Paper empty detection	
	LUD*	Paper upper limit detection	
	C*PD1	Paper remaining quantity detection 1	
	LUM_ENB*	Paper tray lift-up motor	
Paper transport	PFD*	Cassette paper feed detection	Does not operate.
	PPD1	Paper detection in front of RR roller	
	POD	Machine paper exit detection	
	PODF	Finisher paper exit detection	
	PFM	Paper feed motor	
	TRC	Transport clutch	
	MPFS	Manual paper feed solenoid	
	MPFC	Manual paper feed clutch	
	CPFS*	Cassette paper feed solenoid	
	CPFC*	Cassette paper feed clutch	
	RRM_START	RR motor	
Developing	PRD_AN?	Toner concentration detection	Does not operate.
Fusing	HLPR	HL power relay	ON
Waste toner	TBBOX	Waste toner bottle installation detection	Does not operate.
	TFD	Waste toner full detection	
Image process	DMENB	All OPC drum drive motor	Does not operate.
	DVKM	Developing motor (Black)	
	DVCM	Developing motor (Color)	
	HPCH	Toner hopper installation detection	
	PRD_ANRTH	Image process temperature detection	
Coin vendor (Japan only)	CV_COPY	B/W copy allow signal	❍ (No Money insertion → Detection ; pre-heat mode canceled)
	CV_CLCOPY	Color copy allow signal	
	CV_COUNT	Count signal	Does not operate.
	CV_START	Copy start signal	
	CV_COLOR	Color signal	
	CV_SIZE0	Size signal 0	
	CV_SIZE1	Size signal 1	
	CV_SIZE2	Size signal 2	
	CV_SIZE3	Size signal 3	
Scanner (reading)	MHPS	Mirror home position detection	Does not operate.
	SMENB	Scanner (writing) motor	
Copy lamp	CL	Scanner lamp	Does not operate.
Fan	CFM	Scanner (reading) cooling fan	Does not operate.
	VFPWM	Fusing exhaust/cooling fan	Operates. (Only the fusing exhaust fan is operable.)
	LSUPWM	LSU cooling fan (LSUFM)	Does not operate.
	OZFM	Ozone exhaust fan	
Others	DSWF	Front door open detection	Does not operate.
	DDSW	Paper exit door open detection	
	RDSWU	Paper fed upper door open detection	
	RDSWD	Paper feed lower door open detection	
	PSPR	Main power relay	OFF
	MCLKA	Paper tray lift motor/Toner motor	Does not operate.
	MCLKB		
	DHPR	Dehumidifier heater power relay	Operates.

d. Communication in the pre-heat mode

Section	Signal name	Content	Operation in the pre-heat mode
PCU SUB PWB	TXD_SUB	PCU SUB data send	Operates.
	RXD_SUB	PCU SUB data receive	
	BELTCH	Transfer belt pull-out detection	
ADU	TXD_ADU	ADU data send	Does not operate.
	RXD_ADU	ADU data receive	
	RES_ADU	ADU reset	
	ADU_CH	ADU pull-out detection	
RADF	TXD_RADF	RADF data send	Operates.
	RXD_RADF	RADF data receive	
	RES_RADF	RADF reset	
Sorter	RES_SOT	SOT reset	Operates.
LCC	TXD_LCC	LCC data send	Does not operate.
	RXD_LCC	LCC data receive	
	RES_LCC	LCC reset	
RIC I/F	TXD_RIC	RIC data send	Does not operate.
	RXD_RIC	RIC data receive	
	DTR_RIC	Machine power ON signal	
	DSR_RIC	RIC power ON signal	
ICU PWB	ICU_RXD	ICU data receive	Does not operate.
	ICU_TXD	ICU data send	
	ICU_RES	ICU reset signal	
Operation unit	OPE_TXD	Data send to OPE	Operates.
	OPE_RXD	Data receive from OPE	
	OPE_RES	OPE reset signal	

(2) Fusing section operation in the pre-heat mode and the sleep mode

(AR-C100/C150)

Mode			Control temperature									NOTE
			U.S.A	Canada	Inch	Japan	AB_B	Europe	U.K	Aus.	AB_A	
Ready condition	Ready condition control temperature (HL1)	Upper heat roller	187	187	187	177	177	187	187	187	187	
	Ready condition control temperature (HL2)	Lower heat roller	142	142	142	132	132	142	142	142	142	
Copy/Print mode	Normal mode control temperature (HL1)	Upper heat roller	180	180	180	170	170	180	180	180	180	
	Normal mode control temperature (HL2)	Lower heat roller	135	135	135	125	125	135	135	135	135	
	Thick paper mode control temperature (HL1)	Upper heat roller	200	200	200	200	200	200	200	200	200	AR-C150 only
	Thick paper mode control temperature (HL2)	Lower heat roller	155	155	155	155	155	155	155	155	155	AR-C150 only
	OHP mode control temperature (HL1)	Upper heat roller	180	180	180	180	180	180	180	180	180	AR-C150 only
	OHP mode control temperature (HL2)	Lower heat roller	175	175	175	175	175	175	175	175	175	AR-C150 only
Pre-heat mode	Energy saving mode control temperature (HL1)	Upper heat roller	140	140	140	140 (137)	140	140	140	140	140	( ) AR-C100
	Control temperature when resetting from pre-heat to B/W (HL1)	Upper heat roller	155	155	155	155 (152)	155	155	155	155	155	( ) AR-C100
Sleep mode	HL1	Upper heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	HL2	Lower heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

(AR-C250)

Mode			Control temperature									NOTE
			U.S.A	Canada	Inch	Japan	AB_B	Europe	U.K	Aus.	AB_A	
Ready condition	Ready condition control temperature (HL1)	Upper heat roller	177	177	177	177	177	177	177	177	177	
	Ready condition control temperature (HL2)	Lower heat roller	132	132	132	140	140	132	132	132	132	
Copy/Print mode	Normal mode control temperature (HL1)	Upper heat roller	170	170	170	170	170	170	170	170	170	
	Normal mode control temperature (HL2)	Lower heat roller	125	125	125	140	140	125	125	125	125	
	Thick paper mode 1 control temperature (HL1)	Upper heat roller	185	185	185	185	185	185	185	185	185	
	Thick paper mode 1 control temperature (HL2)	Lower heat roller	155	155	155	155	155	155	155	155	155	
	Thick paper mode 2 control temperature (HL1)	Upper heat roller	200	200	200	200	200	200	200	200	200	
	Thick paper mode 2 control temperature (HL2)	Lower heat roller	155	155	155	155	155	155	155	155	155	
	OHP mode control temperature (HL1)	Upper heat roller	180	180	180	180	180	180	180	180	180	
	OHP mode control temperature (HL2)	Lower heat roller	175	175	175	175	175	175	175	175	175	
Pre-heat mode	Energy saving mode control temperature (HL1)	Upper heat roller	136	136	136	136	136	136	136	136	136	
	Control temperature when resetting from pre-heat to B/W (HL1)	Upper heat roller	148	148	148	148	148	148	148	148	148	
Sleep mode	HL1	Upper heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	HL2	Lower heat roller	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

4. Consumable parts life and machine operation

The relationship between the consumable parts life and the machine operation is as shown in the table below.

Consumable parts		Condition	Operation	Message
Toner	K	Low toner	About 30-sheet copy (print) allowed	Copy allowed/ Supply toner
	Y,M,C	Low toner	About 30-sheet copy (print) allowed	Copy allowed/ Supply toner
	K	Toner empty	Copying (printing) is stopped after completion of the half-way copy (print). All copy (print) including color copy inhibited.	Toner empty
	Y,M,C	Toner empty	Copying (printing) is stopped after completion of the half-way copy (print). (Monochrome copy is allowed.)	Toner empty
Developer	K,Y,M,C	Life	Copy (print) allowed	Maintenance required
OPC drum	K,Y,M,C	Life	Copy (print) allowed	Maintenance required
Waste toner bottle	OPC drum section	Life	Copying (printing) is stopped after completion of the half-way copy (print).	Replace toner collection bottle
	Transfer section	Life	Copying (printing) is stopped after completion of the half-way copy (print).	Transfer unit toner collection bottle full
Fusing oil		Oil empty	Copy (print) is immediately stopped.	H6 trouble (Fusing oil empty)

[7] SETTING AND ADJUSTMENTS

1. List of setup items

Set item		Related simulations
SET M1	Auto color balance adjustment target setup	46-21, 63-7, 63-8
SET M2	Auto color balance adjustment target selection	(63-8), 46-24, 63-7
SET M3	User auto color calibration (Copy color balance, auto density adjustment)	26-53
SET M4	Fusing capability setting with heavy paper (in color copy) (AR-C150)	26-55
SET M5	Selection (setup) of the gamma characteristic in the color copy mode (AR-C250)	26-55

SET M1 Auto color balance adjustment target setup

A. Outline

Auto color balance adjustment is performed with a certain color balance (gamma) as a target. There are following two kinds of targets:

Only the service target among them allows optional setup of a color balance (gamma) target.

1) Service target

   This is provided to correct the shift in the reference color balance (gamma) due to the machine fluctuations.
   An optional color balance (gamma) target can be set according to the user's request.
   In addition, the default target can be used as the service target.
   Normally this is set to the standard color balance (gamma).

2) Factory target

   This is the color balance (gamma) target which is set in the factory.
   It is set to the standard color balance (gamma), and can be used when the service target falls in an abnormal state by some reasons.
   It cannot be changed in the market.

When shipping from the factory, the service setup and the factory setup are the same color balance (gamma) target.

This setup must be performed in the following cases:

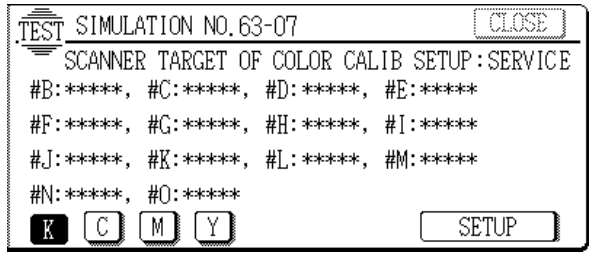
- When the copy color balance and the density adjustment is manually performed. (SIM 46-21)
- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM on the ICU main PWB is replaced.

B. Setup procedure

(Procedure to set the standard color balance (gamma) or an optional color balance (gamma) as the service target)

1) Two sheets of color patch image (adjustment pattern) are outputted in the copy color balance adjustment (manual adjustment) (SIM 46-21). (ADJ M17/ADJ 3)
   At that time, when the color balance is shifted from the standard, an adjustment is required. If not, there is no need to adjust.
   If an optional color balance is required according to the user's request, an adjustment is required.

2) Enter the SIM 63-7 mode.



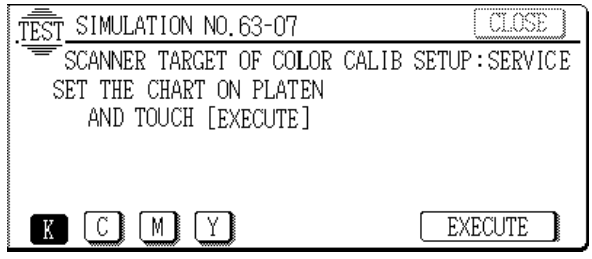
3) Press the SETUP key.

4) Set the color patch image (adjustment pattern) paper properly adjusted and printed in the copy color balance adjustment (manual adjustment) (SIM 46-21) (ADJ M17/ADJ 3) on the original table.

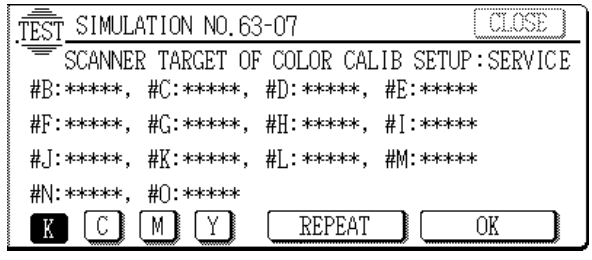
   The color patch image (adjustment pattern) printed by SIM 64-2 may be used. In this case, check that the printed image is proper. (The other color patch images (adjustment patterns) printed by another machine may be used.)
   Set the paper on the original table so that the darker density side comes on the left side. Then place 5 sheets of white paper on the color patch image (adjustment pattern).

5) Press the EXECUTE key.

   The color patch image (adjustment pattern) is read.



6) Press the REPEAT key and set the second color patch image (adjustment pattern) on the original table.

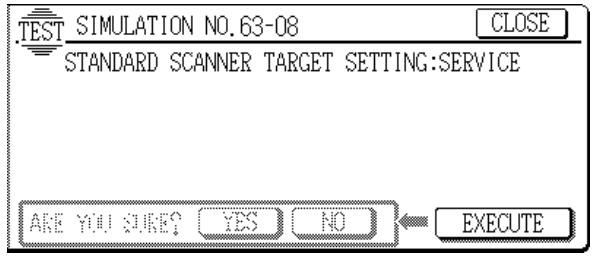


7) Press the OK key.

   The color balance (gamma) corresponding to the color patch image (adjustment pattern) printed in the copy color balance adjustment (manual adjustment) (ADJ M17/ADJ 3) is set as the service target.

(Procedure to set the default (standard) color balance (gamma) as the service target)

1) Enter the SIM 63-8 mode.



2) Press the EXECUTE key.

3) Press the YES key.

   The service target becomes the same as the default (standard) target.

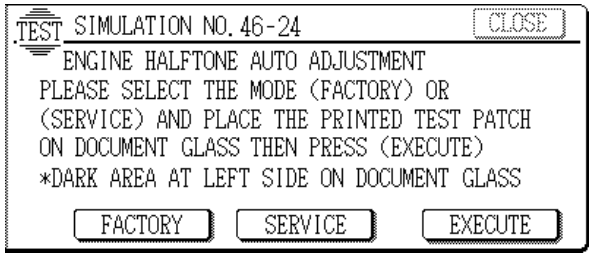
NOTE: To reset to the original service target, SET M1 must be performed.

SET M2 Auto color balance adjustment target selection

There are following two kinds of targets, and one of them can be selected.)

(Selection procedure of the service or the factory target)

In the auto color balance adjustment (SIM 46-24), the selection menu is shown to allow selection between SERVICE and FACTORY.



SET M3 User auto color calibration (Copy color balance, auto density adjustment) enable setup

A. Outline

The user can perform the copy color balance and auto density adjustment in the user program mode.

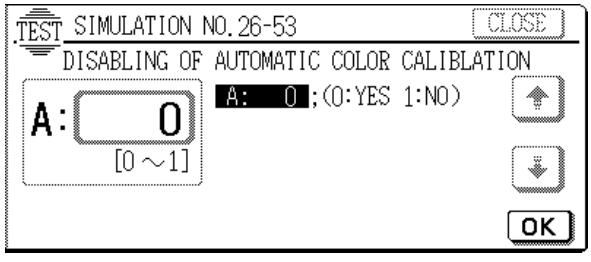
SIIM 26-53 is used to Enable or Disable this operation.

NOTE: This setup is performed only when the user understands the copy color balance and the auto density adjustment and is capable of performing the operation.
Full explanations on the operating procedure, notes, and operations must be given to the user.

- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM on the PCU main PWB is replaced.

B. Setup procedure

1) Enter the SIM 26-53 mode.



2) Select Enable/Disable with the 10-key.
   Disabling = 0: YES
   Enabling = 1: NO
3) Press the OK key.

When "0: YES" (Disabling) is selected, the user auto color calibration (copy color balance, auto density adjustment) menu is not displayed in the user program mode.

SET M4 Fusing capability setting with heavy paper (in color copy) (AR-C150)

A. Outline

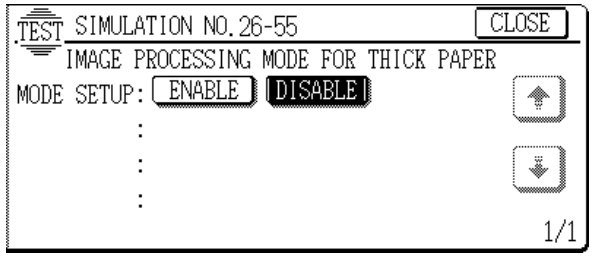
This setting is used to give priority to fusing capability over picture quality in the color copy mode with heavy paper. The quantity of black toner which forms images on the paper is reduced by image process to have better fusing capability.

B. Note

This setting is used only when poor fusing capability is resulted in the color copy mode with heavy paper.

When "ENABLE" (Priority of fusing capability) is selected, the color phase is shifted.

1) Enter the SIM 26-55 mode.



2) Select between ENABLE and DISABLE.

ENABLE: Priority of fusing capability (The quantity of black toner which forms images on paper is reduced to have better fusing capability, but the black concentration is slightly reduced and the color phase is shifted.) (K toner is reduced and reproduction of black is supplemented by Y/M/C toner.)

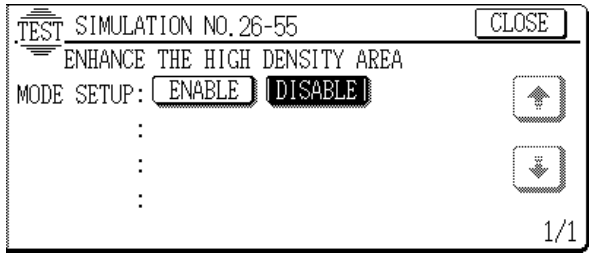
DISABLE: Normal mode (Normal image process)

SET M5 Selection (setup) of the gamma characteristic in the color copy mode (AR-C250)

A. Outline

This setup is used to set the priority order between brightness and gradation in the color copy mode. The setup affects the gamma characteristic in the high-density area.

1) Enter the SIM 26-55 mode.



2) Press ENABLE or DISABLE key.

ENABLE: The contrast in the high-density area is increasing, and the gradation is slightly decreased. (Priority is given to brightness.)

DISABLE: Normal picture quality (Priority is given to gradation.)

2. List of adjustment items

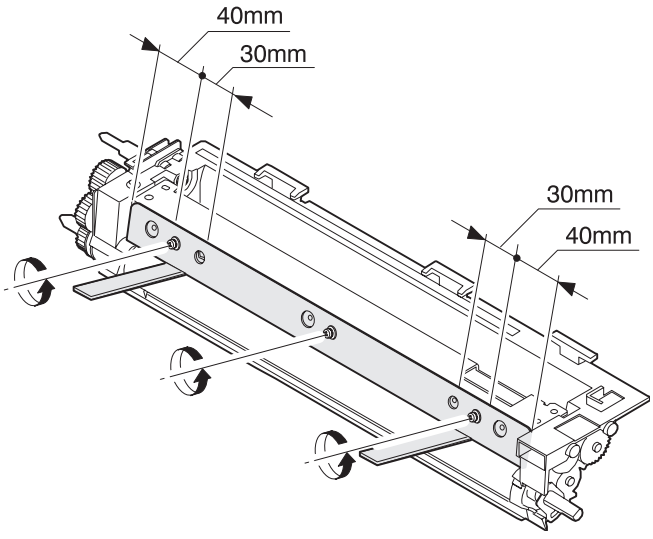
ADJUSTMENT ITEM				SIMULATION
ADJ M1	DV doctor gap adjustment			
ADJ M2	DV roller main pole position adjustment			
ADJ M3	Toner concentration control reference level setting			25-2/44-27
ADJ M4	High voltage adjustment	ADJ 1	Main charger grid voltage adjustment	8-2
		ADJ 2	DV bias voltage adjustment	8-1
		ADJ 3	Transfer voltage adjustment	8-6 (Old) 44-30 (New)
ADJ M5	Paper skew adjustment			44-2
ADJ M6	Image density sensor adjustment	ADJ 1	Image density sensor calibration	44-13
		ADJ 2	Image density sensor sensing position adjustment	44-23
ADJ M7	Image skew adjustment (Scanner (Writing) unit)			64-1
				61-4
ADJ M8	Photoconductor phase adjustment			44-20 (Old) 44-31 (New)
ADJ M9A	Image registration adjustment (Auto adjustment) (AR-C250) (New version of AR-C150)	Main scanning direction copy magnification ratio adjustment (Scanner (Writing) unit) Main scanning direction image registration adjustment (Scanner (Writing) unit) Sub scanning direction color image resist adjustment (Scanner (Writing) unit) (Color)		50-22
ADJ M9	Main scanning direction copy magnification ratio adjustment (Manual adjustment) (Scanner (Writing) unit)	ADJ 1	Main scanning direction copy magnification ratio adjustment (Scanner (Writing) unit) (Black)	50-10
	Main scanning direction image registration adjustment (Manual adjustment) (Scanner (Writing) unit)	ADJ 2	Main scanning direction color image resist adjustment (Scanner (Writing) unit) (Color)	50-20
			Main scanning direction copy magnification ratio adjustment (Scanner (Writing) unit) (Color)	
ADJ M10	Sub scanning direction color image resist adjustment (Manual adjustment) (Scanner (Writing) unit) (Color)			50-21
ADJ M11	Image distortion adjustment	ADJ 1	Scanner (Reading) unit parallelism adjustment	
		ADJ 2	Image distortion adjustment (Sub scanning direction)	
		ADJ 3	Image distortion adjustment (Main scanning direction)	
ADJ M12	Image focus (Main scanning direction copy magnification ratio) adjustment (CCD position adjustment)			48-1
ADJ M13	Sub scanning direction copy magnification ratio adjustment			48-1
ADJ M14	Image position adjustment (Main scanning direction) (Print engine)			50-10
ADJ M15	Image position adjustment (Main scanning direction) (Scanner (Writing)			50-12
ADJ M16	"Image position, image loss, void area adjustment"			50-1/50-2
ADJ M17	Image quality adjustment	ADJ 1	CCD gamma adjustment (CCD calibration) (Normal document mode) (AR-C100/C150/C250)	63-3 (63-5)
		ADJ 1A	CCD gamma adjustment (CCD calibration) (Copy document mode) (AR-C250 only)	63-9
		ADJ 2	Copy color balance adjustment (Auto)	46-22/24
		ADJ 3	Copy color balance adjustment (Manual)	46-21
		ADJ 4	Copy color balance adjustment (Copy mode)	46-10 – 19, 25
		ADJ 5	Black toner component image gamma adjustment (Black character and black line reproduction adjustment) (AR-C250 only) (Normally unnecessory to adjust.)	46-25
ADJ M18	Document size sensor adjustment	ADJ 1	Original size sensor detection point adjustment	41-2
		ADJ 2	Original size sensor sensitivity adjustment	41-2
ADJ M19	Waste toner full detection level adjustment			
ADJ M20	Touch panel coordinates setting			65-1
ADJ M21	Transfer belt level adjustment (Transfer belt traveling adjustment)			
ADJ M22	Fusing pressure adjustment (Except for the AR-C250)			
ADJ M23	Power voltage adjustment	ADJ 1	3.4 V power voltage adjustment	
		ADJ 2	5.0 V power voltage adjustment	
		ADJ 3	24 V power voltage adjustment	
ADJ M24	Manual feed paper size sensor adjustment			40-2
ADJ M25	OHP sensor adjustment			40-5

ADJ M1 DV doctor gap adjustment

This adjustment must be performed in the following cases:

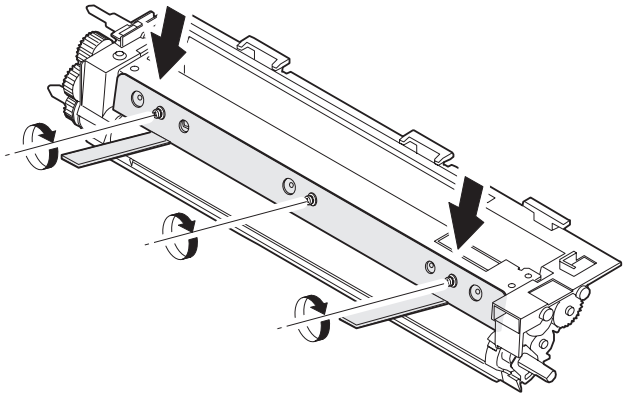
- When the developing unit is disassembled.
- When the print density is low.
- When there is a lot of toner dispersion abnormally.

1) Remove the developing unit from the copier, and remove the developing unit cover and the blade cover.
2) Loosen the DV doctor fixing screw A.
3) Insert a 0.525 thickness gauge at the point of 40mm – 70mm from the DV doctor edge.



4) Push the DV doctor in the arrow direction and tighten the DV doctor fixing screw.
   (Perform the same procedure for the front and the rear frame simultaneously.)
5) Check that the clearance is 0.525 ± 0.03mm at two positions which are 40mm – 70mm from the both sides of the DV doctor.

* When inserting the thickness gauge, be careful not to scratch the DV doctor and the MG roller.



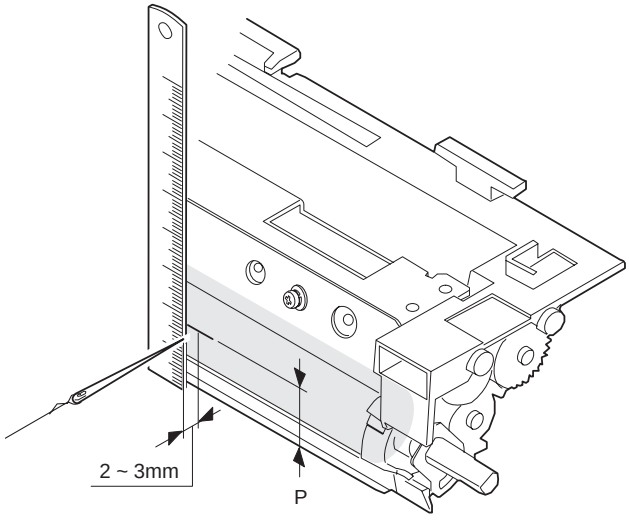
ADJ M2 DV roller main pole position adjustment

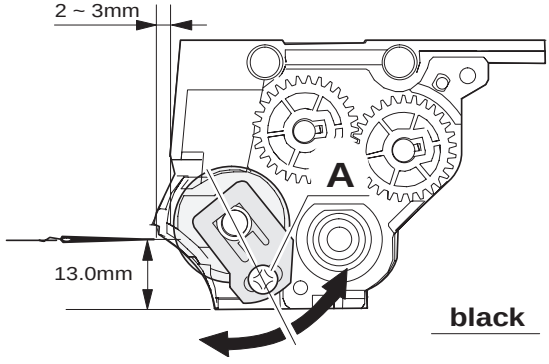
This adjustment must be performed in the following cases:

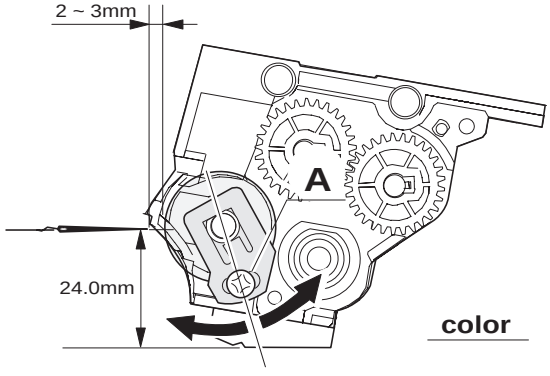
- When the developing unit is disassembled.
- When the print density is low.
- When there is a lot of toner dispersion abnormally.

1) Remove the developing unit cover and the blade cover, and place the developing unit on a flat surface.
2) Tie a string to a needle or a pin.
3) Hold the string and put the needle horizontally and move it toward the MG roller. (Do not use a clip which is too big to have a correct position.)
4) With the needle tip at 2 – 3mm from the MG roller surface, mark the point on the surface which is on the extended line of the needle tip. (Do not make contact between the needle tip and the MG roller.)
5) Measure the distance between the marking position and surface P of the developing unit, and check that the black unit is 13mm, color unit 24mm.

   If the distance is not as specified above, loosen the fixing screw A of the main pole adjustment plate, and move the adjustment plate in the arrow direction to adjust.





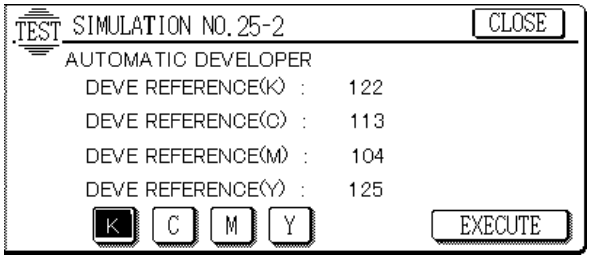


ADJ M3 Toner concentration control reference level setting

This adjustment must be performed in the following case:

- When the developer is replaced.

1) With the front cabinet open, enter the SIM 25-2 mode.



2) Close the front cabinet.
3) Select the developing unit to be adjusted.
4) When the [EXECUTE] key is pressed, it is highlighted. The OPC drum drive motor rotates and the toner concentration sensor detects toner concentration and the output value is displayed.

After stirring for 3 min, the average value of toner concentration sensor detection level is set (stored) as the reference toner concentration control value.

NOTE: When the operation is stopped in 3 min, the adjustment result is not registered.
When the [EXECUTE] key is pressed during rotation of the motor, it is stopped and the [EXECUTE] key returns to the normal display.
If "EE-EU" or "EE-EL" is displayed, it means that the reference toner concentration control value is not set normally.
EE-EL: Less than 79 (1.59V)
EE-EU: More than 177 (3.41V)

5) Execute SIM 24-5 to clear the developer counter.
6) Execute SIM 44-27 to reset the half tone correction data (correction conditions) to the default.

NOTE: 1) When replacing the color developer, replace the yellow, Magenta, and Cyan developers at the same time.
If only one developer is replaced, the color balance may be abnormal.
The black developer can be replaced alone.
2) After replacement of developers and the photoconductor, be sure to execute SIM 44-27 to reset the half tone correction data (correction conditions) to the default level.
If the above procedure is ignored, half tone correction may not be performed properly.

ADJ M4 High voltage adjustment

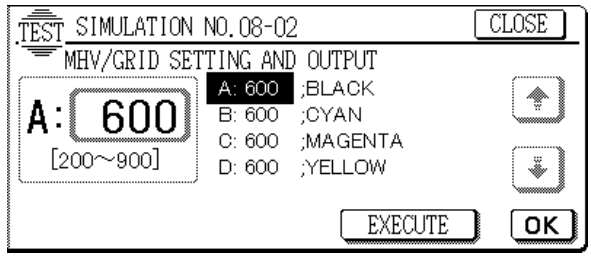
(Note) For adjustment of the output voltage, use internal impedance of 1000Mohm or more and whose effective value can be measured (Recommend: FLUKE87 FLUKE80K-40). Use a high voltage probe.

ADJ 1 Main charger grid voltage adjustment

This adjustment must be performed in the following cases:

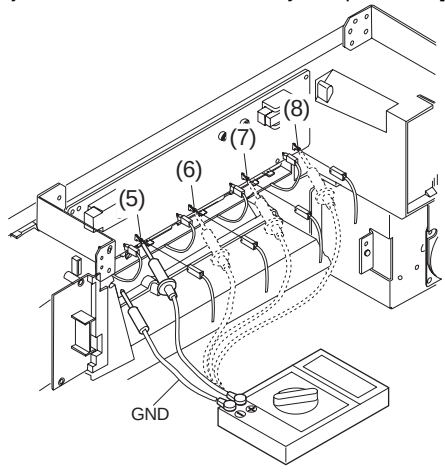
- When the high voltage power (MC/DV) PWB is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

1) Enter SIM 8-2 mode.
2) Select the color mode to be adjusted with the scroll key and press the [EXECUTE] key.
3) Check the output voltage with the high voltage probe, and adjust the value of each color so that the specification in the table below is satisfied.



Color	Normal mode adjustment spec		Check pin
	AR-C100/C150	AR-C250	
K	–525 ± 5V	–545 ± 5V	(5)
C	–525 ± 5V	–545 ± 5V	(6)
M	–525 ± 5V	–545 ± 5V	(7)
Y	–525 ± 5V	–545 ± 5V	(8)

Enter the adjustment value with the 10-key and press the [OK] key.



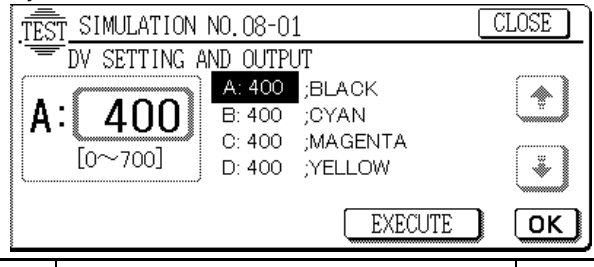
* With all the OPC drums removed from the machine, bring the high voltage probe into contact with the high voltage PWB GB pin to check the adjustment value.

ADJ 2 DV bias voltage adjustment

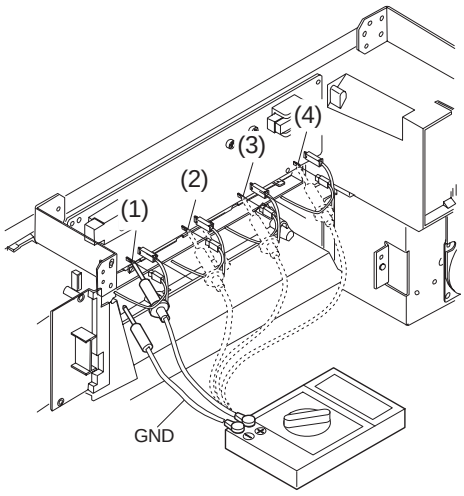
This adjustment must be performed in the following cases:

- When the high voltage power (MC/DV) PWB is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.

1) Enter the SIM 8-1 mode.
2) Select the color mode to be adjusted with the scroll key and press the [EXECUTE] key.
3) Check the output voltage with the high voltage probe, and adjust the value of each color so that the specification in the table below is satisfied.
Enter the adjustment value with the 10-key and press the [OK] key.



Color	Normal mode adjustment spec	Check pin
K	–325 ± 5V	(1)
C	–325 ± 5V	(2)
M	–325 ± 5V	(3)
Y	–325 ± 5V	(4)



* Set the developing unit (K, C, M, Y), bring the high voltage probe into contact with the high voltage PWB GS pin to check the adjustment value.

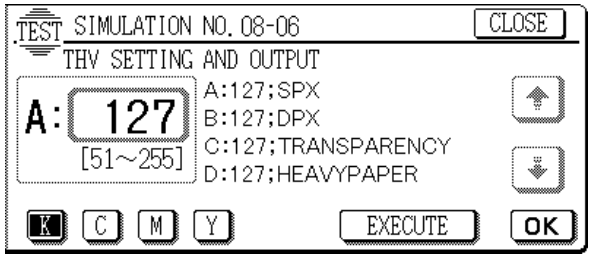
ADJ 3 Transfer voltage adjustment

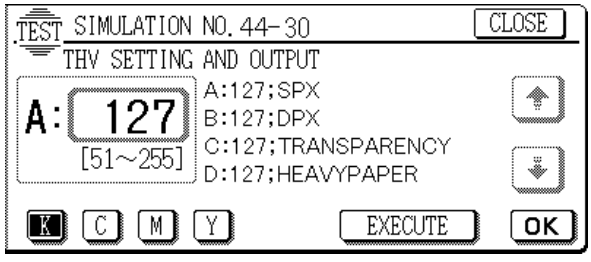
This adjustment must be performed in the following cases:

- When the high voltage power (TC) PWB is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

1) Enter the SIM 8-6 mode and enter the following values for each color and press the [OK] key. (Old)
   Enter the SIM 44-30 mode, enter the following value for each mode and each color, and enter the [OK] key. (New)
   Transfer voltage input values

	Display	BK	C	M	Y
Normal paper mode	A: SPX	178	164	123	123
ADU mode	B: DPX	178	164	123	123
OHP mode	C: OHP	204	209	167	162
Thick paper mode	D: HEAVY PAPER	204	187	138	138





NOTE: Do not press the [EXECUTE] key in SIM 8-6, otherwise the photoconductor may be damaged.

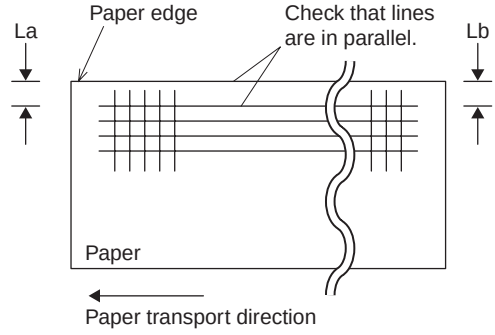
The AR-C250 is provided with the adjustment of the transfer voltage with SIM 44-30 from the beginning of production, and the AR-C100/C150 in the middle of production.

ADJ M5 Paper skew adjustment

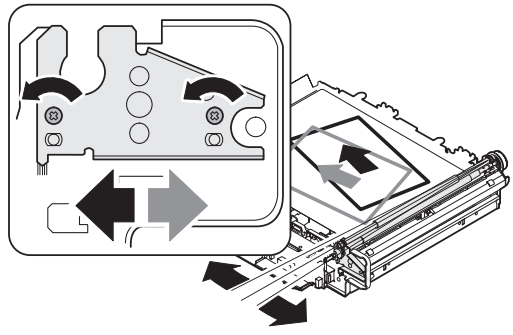
This adjustment must be performed in the following cases:

- When the resist roller section is disassembled.

1) Enter the SIM 64-1 mode.
   Select the black print mode.
2) Set the items as shown below:
   A: 5
   B: 255
   C: 1
   D: 9
   E: Select A3 (11 × 17) paper size.
3) Press the [EXECUTE] key.
   The grid pattern is printed. Check that the print line in the paper transport direction is in parallel with both edges.



   If the above condition is not satisfied, perform the following procedure.
4) Loosen the resist roller fixing screw, and change the resist roller angle.



   The standard position is at the center.

Repeat procedures 3) – 4) until the condition of procedure 3) is satisfied.

ADJ M6 Image density sensor adjustment

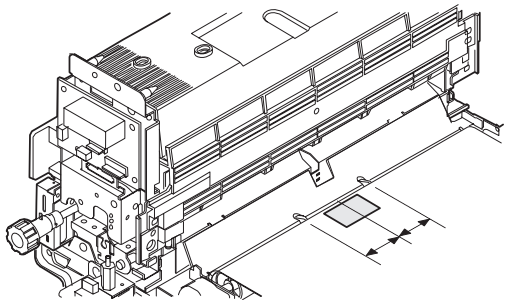
ADJ 1 Image density sensor calibration

This adjustment must be performed in the following cases:

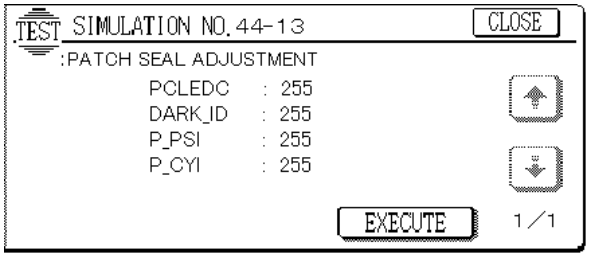
- When the image density sensor is replaced.
- When the transfer belt is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

The process control sensor gain adjustment means: The detection level differs between machines due to variations in density detection sensors and parts. To prevent against this, attach a seal of a certain density on the belt to calibrate the sensor.

1) With the power OFF, open the right cover of the machine.
2) Pull out the transfer unit, and attach the adjustment sheet (UKOG-0281FCZZ) to the belt.
   (The attachment position is between the two separation pawls of the fusing unit.)



3) Return the transfer unit. With the front cover open, turn on the power.
4) Enter the SIM 44-13 mode.
5) Close the front cover.
6) Press the [EXECUTE] key.
   The adjustment is automatically performed. When the adjustment is completed, the [EXECUTE] key returns to the normal display.

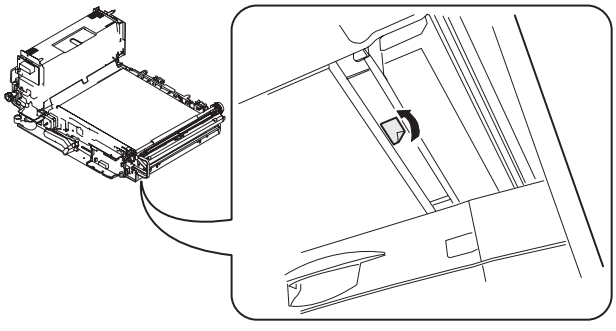


7) Check that the SIM 44-13 values are within the specifications.

Check content	Spec
PCLEDC (Sensor current in color calibration)	128 or below
DARK ID (Color image density sensor dark voltage)	50 or below
P_PSI (Read value of calibration sheet)	102 ± 5
P_CYI (Read value of calibration plate)	80 ± 15

   * When an error message is displayed, clean the sensor and the calibration plate, and adjust again.
   * If the above procedure cannot cancel the error, replace the sensor and the calibration plate.

8) Turn off the power.
9) Pull out the transfer unit, and remove the adjustment sheet.
   (The adjustment sheet is positioned in front of the cleaning blade at the back of the unit as the transfer belt rotates.)



10) Return the transfer unit.

NOTE: If the motor drive power is turned on immediately after attaching the adjustment sheet to the transfer belt, the adjustment sheet does not stop at the specified position and the transfer belt keeps rotating.
As a result, the adjustment sheet may be damaged by the transfer cleaning blade or the transfer cleaning blade may be damaged by the adjustment sheet.
To prevent against this, be sure to observe the following.

1) Before entering the SIM 44-13 mode, open the right cover of the machine to open the motor drive power line.
2) After completion of the adjustment, remove the adjustment sheet from the transfer belt.

ADJ 2 Image density sensor sensing position adjustment

This adjustment must be performed in the following cases:

- When the image density sensor is replaced.
- When the image density sensor section is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

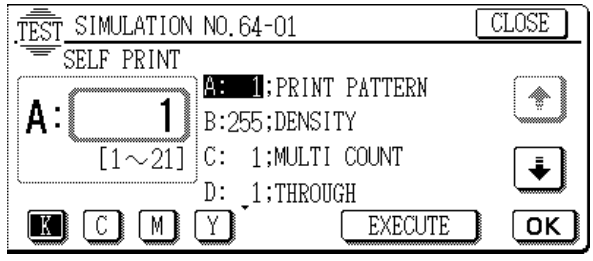
1) Enter the SIM 44-23 mode.
2) Press the [EXECUTE] key. The adjustment is automatically performed, and the average data is displayed.
   When the operation is completed, the [EXECUTE] key is highlighted.
   In case of an abnormal end, "ERROR" is displayed.

ADJ M7 Image skew adjustment (Scanner (Writing) unit)

This adjustment must be performed in the following cases:

- When the scanner (writing) unit is replaced.
- When the scanner (writing) unit is removed from the machine.
- When a color image mis-resist occurs.
- When the installing location is changed.

1) Enter the SIM 64-1 mode.
   Select the color mode of Black.



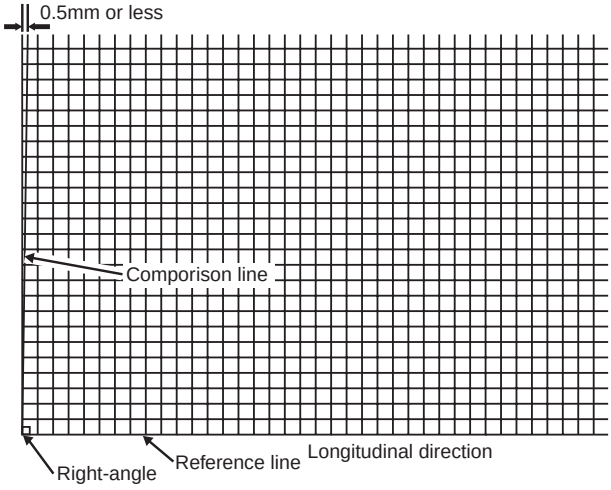
2) Set the values of A – D of the set item as shown in the table below, and make an A3 (11" × 17") copy. (The grid pattern is printed.)
   * Use the paper tray at the bottom.

SIM 64-1 set items

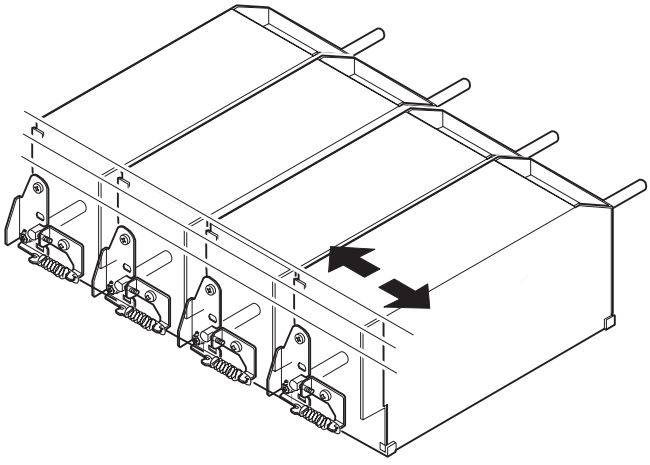
	Parameter	Set value
A	PRINT PATTERN	5
B	PRINT START GRADATION LEVEL	1
C	SELF PRINT Q'TY SETTING	1
D	DENSITY MODE	9

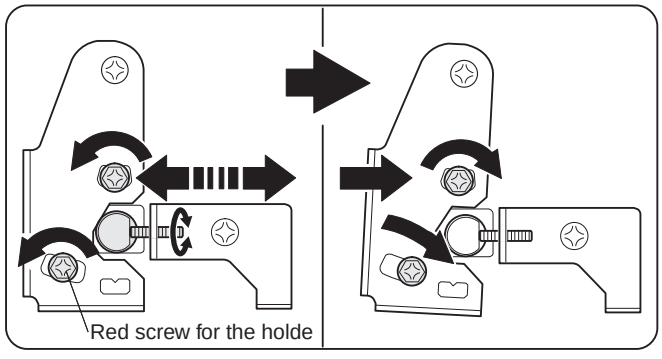
Enter the input value with the 10-key and press the OK key. When the [EXECUTE] key is pressed, printing is performed. Paper is selected by the set item E.

3) Check the distortion of the printed image.
If the right-angle level of the traverse print line is 0.5mm or less for the longitudinal print line of paper, there is no need to adjust.

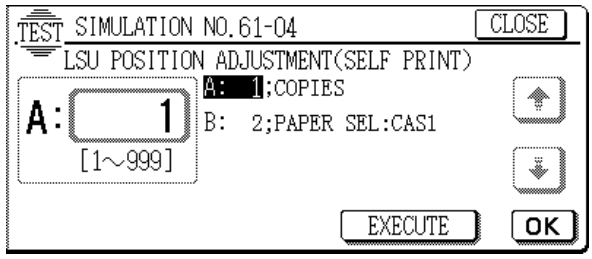


4) If the image is distorted, loosen the red screw for the holder on the chassis side, and adjust the LSU inclination with the black LSU adjustment screw (set screw). (The LSU at the right end is black.)
After completion of the adjustment, fix the holder with the red screw.





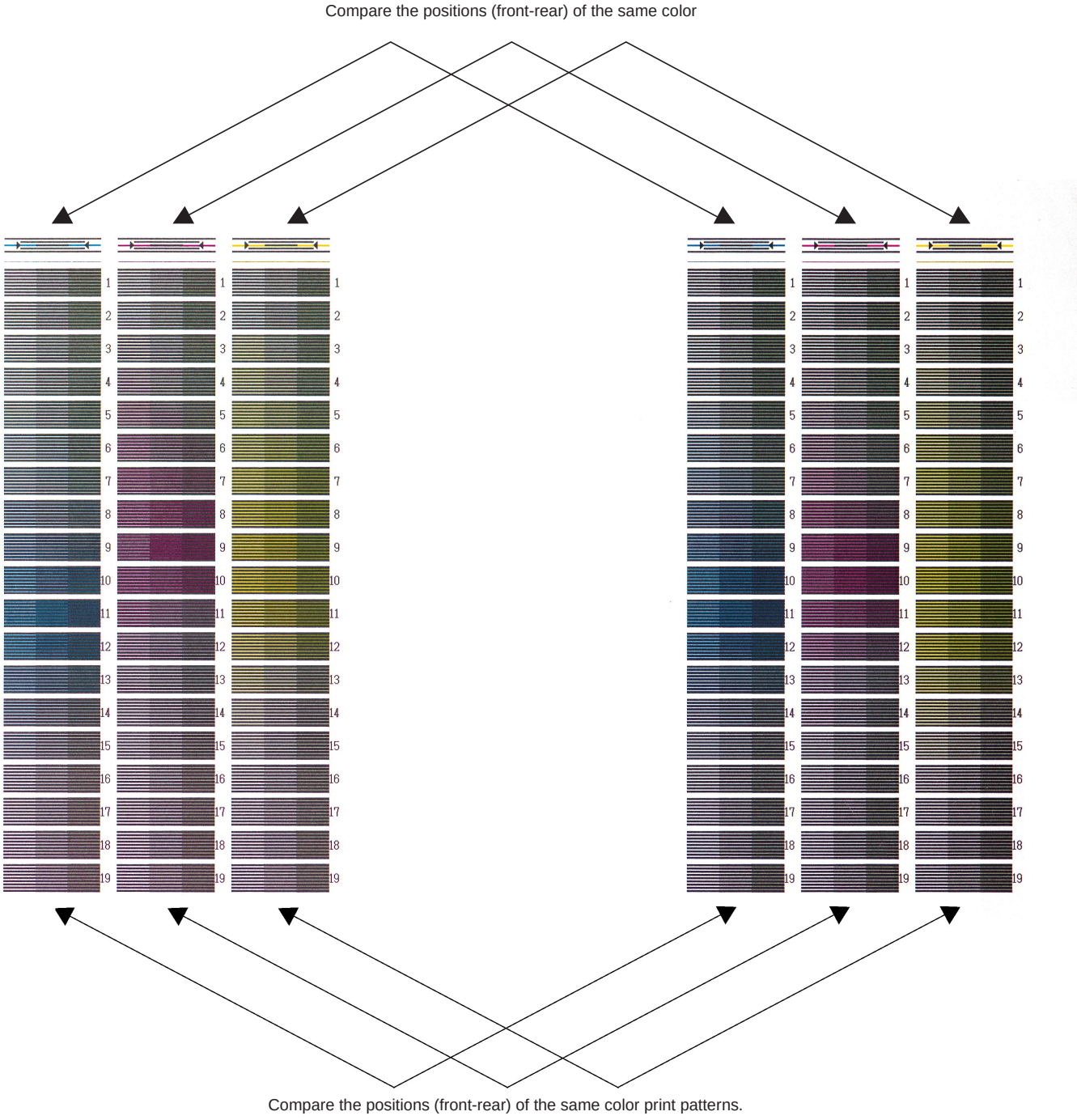
5) Enter the SIM 61-4 mode.



6) Select 11 × 17 paper and press the [EXECUTE] key. Paper is selected by the set item B.
The check pattern is printed.
* Use the paper tray at the bottom.

7) Check that the center shift between the Y/M/C print color patterns is within 0 ± 1 step.
(Check the shift between the print patterns of the same color. Even though there is some shift between different colors, there is no problem.)
If the above condition is not satisfied, loosen the red screw for the holder on the front side of the chassis, and adjust the LSU adjustment screw (set screw) to adjust the LSU inclination.
After completion of the adjustment, fix the holder with the red screw.

Procedures 1) – 4): Black LSU adjustment procedures
Procedures 5) – 7): Color LSU adjustment procedures



Procedures 1) – 4) : Adjustment procedures of the black LSU
Procedures 5) – 7) : Adjustment procedures of the color LSU

ADJ M8 Photoconductor phase adjustment

This adjustment is available in two procedures, old and new. Both are basically the same. Either procedure will do.

The differences between the old and the new procedures are as follows:

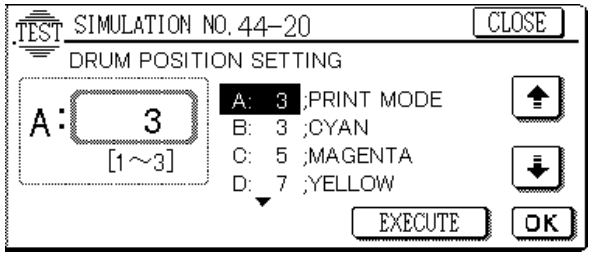
* Some AR-C100/C150 machines use the old procedure (with SIM 44-20). On the other hand, the AR-C250 uses only the new procedure (with SIM 44-31) and does not have the old procedure.
  In the AR-C100/C150, the old procedure (with SIM 44-20) is abolished and the new procedure is employed in the middle of production.
* In SIM 44-31, the adjustment pattern is printed in A4R or 8.5" × 11"R size.
  In SIM 44-20, the adjustment pattern is printed in A3 or 11" × 17" size.
* The adjustment pattern photoconductor phase adjustment pitch (interval) differs. (12 division → 8 division)

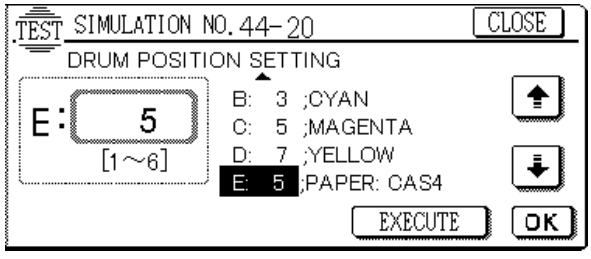
This adjustment is required in the following cases:

- When the photoconductor drum is replaced.
- When the photoconductor drum is removed from the machine.
- When the photoconductor drum drive section is disassembled.
- When the photoconductor drum drive unit is replaced.
- When U2 trouble occurs.
- When PCU MAI PWB is replaced.
- When EEPROM on the PCU MAIN PWB is replaced.

Old procedure of photoconductor phase adjustment (SIM 44-20)

1) Enter the SIM 44-20 mode.

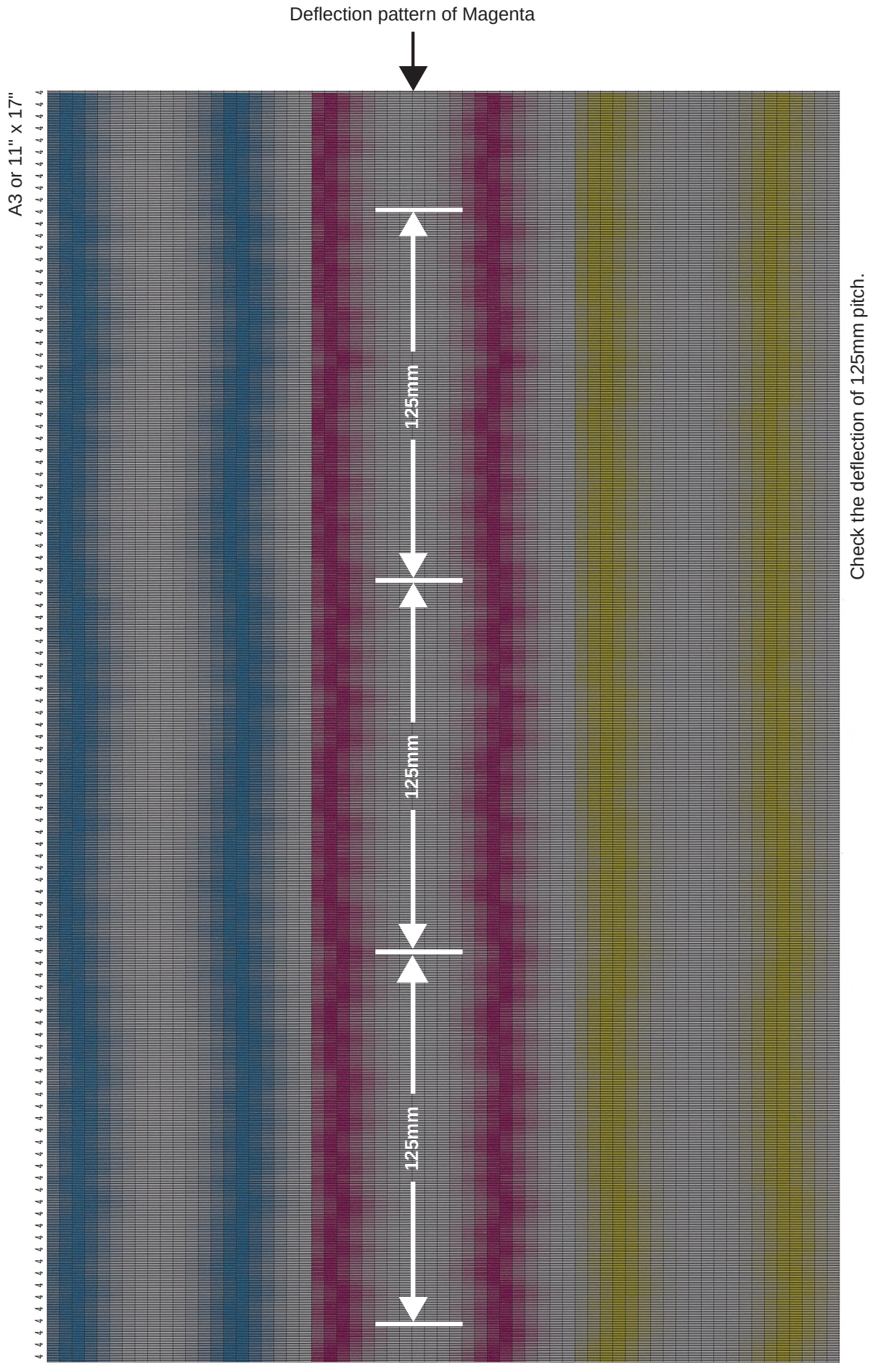




2) Enter "2" in the setup item A (PRINT MODE) with the 10-key, then press the [OK] key. (Default setting is 3.)
3) Select the paper feed cassette with A3 (11" × 17") paper in the setup item E (PAPER SELECT), and press the [OK] key.
   * Use the paper tray at the bottom.
4) Press the [EXECUTE] key, and the drum deflection adjustment pattern is printed in four pages.
   * Pattern N (1, 4, 7, 10) is printed.
5) Check the deflection cycle of 125.6mm pitch of four printed patterns (C, M, Y). Use the output pattern of the smallest deflection as the set value of each color, and set it to item B, C, and D. (After entering the adjustment value, press the OK key.)
6) After entering the adjustment value, enter "3" to set item A with the 10-key and press the [EXECUTE] key to print the adjustment pattern again.

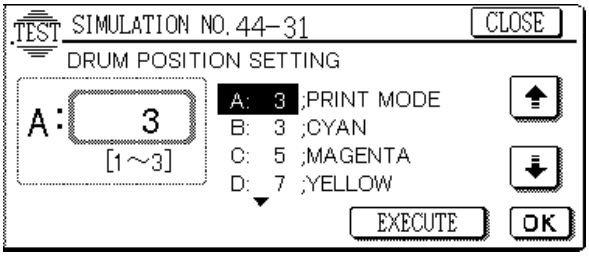
   If the above procedures cannot bring a satisfactory result, select mode 1 and print twelve pages of the print pattern.
   This allows to make more detailed checks and adjustments.
   The adjustment procedure is the same as procedure 5).
   It, however, takes about 6 min to do this procedure.

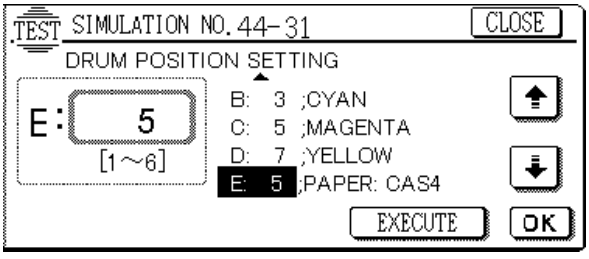
NOTE: If there is an extra deflection other than the drum frequency (125.6mm pitch), check the set values of the RS motor and the fusing motor speed.


Deflection pattern of Magenta
A3 or 11" x 17"
125mm
125mm
125mm
Check the deflection of 125mm pitch.

New procedure of photoconductor phase adjustment (SIM 44-31)

1) Enter the SIM 44-31 mode.

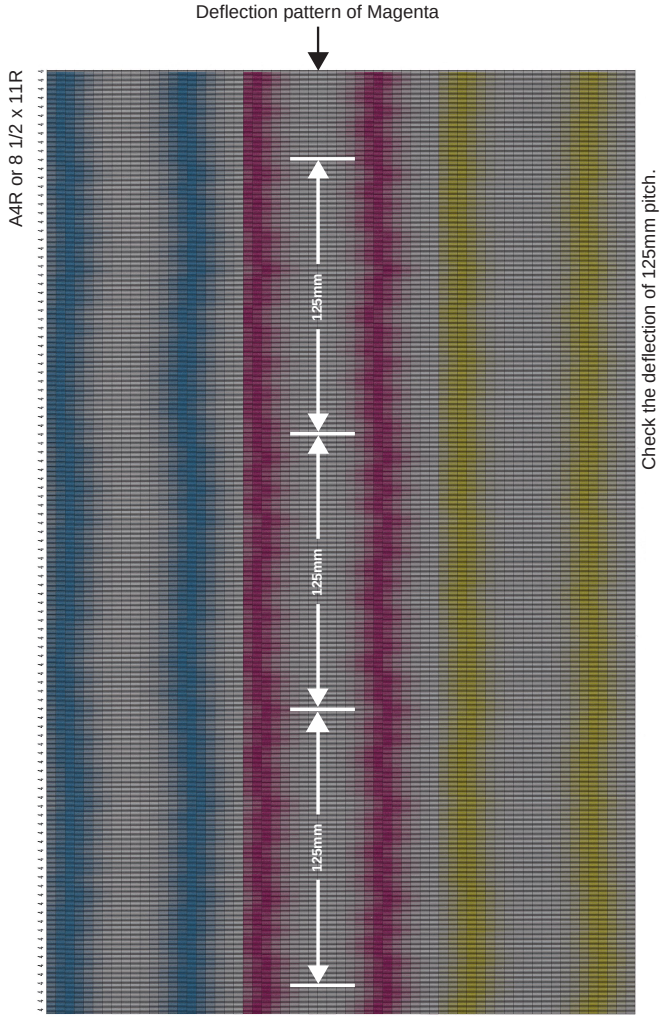




2) Enter "2" in the setup item A (PRINT MODE) with the 10-key, and press the [OK] key. (The default is "3.")
3) Select the paper tray with A4R (8.5 × 11R) paper in the setup item E (PAPER SELECT) and press the [OK] key.

NOTE: Use the lowest paper tray.

4) Press the [EXECUTE] key, and the drum deflection adjustment patterns (4 pages) are printed.



* Pattern numbers 1, 3, 5, and 7 are printed on the output pattern.

5) Check the deflection of 125.6mm pitch for each of C, M, and Y in the four output patterns, and select the output pattern number with the smallest deflection as the set value of each color, and set the number to each of setup items B, C, and D. (After entering the adjustment value, press the [OK] key.)
6) After entering the adjustment value, enter "3" in the setup item A with the 10-key and press the [EXECUTE] key to print an adjustment pattern for checking again.

If the above procedure is not satisfactory, select the PRINT MODE 1 to print 12 print patterns.
This allows to make more detailed check and adjustment. The adjustment procedure is the same as procedure 5).
This procedure takes about 4 minutes.

NOTE: If there is an extra deflection other than the drum frequency (125.6mm pitch), check the set values of the RS motor and the fusing motor speed.

ADJ M9A Image resist adjustment (Auto adjustment) (AR-C250) (New version of AR-C150)

The following items are automatically adjusted.

- ADJ M9/ADJ1 main scanning direction copy magnification ratio adjustment (Scanner (writing) unit) (Black)
- ADJ M9/ADJ 2 main scanning direction image magnification ratio adjustment, image resist adjustmemt (Scanner (writing) unit) (Color)
- ADJ M10 sub scanning direction image resist adjustment (Scanner (writing) unit)

If this automatic adjustment of ADJ M9A is not satisfactory, perform the manual adjustment of ADJ M9 and ADJ M10.

This adjustment is required in the following cases:

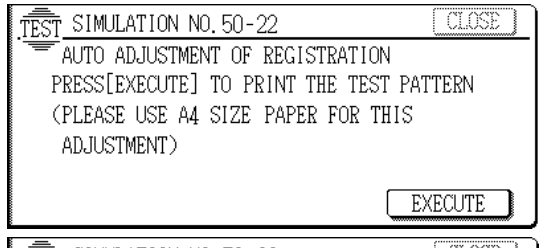
- When the scanner (writing) unit is replaced.
- When the scanner (writing) unit is removed from the machine.
- When the main scanning direction image magnification ratio adjustment (scanner (writing) unit) (Black) is performed.
- When color image mis-resist is generated in the main scanning direction.
- When color image mis-resist is generated in the sub scanning direction.
- When installation or the installing place is changed.
- When U2 trouble occurs.
- When ICU MAIN PWB is replaced.
- When EEPROM on ICU MAIN PWB is replaced.

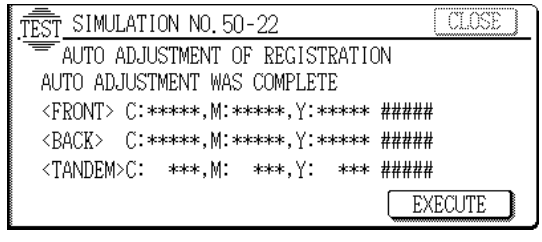
Note before adjustment

Before execution of this adjustment, check that the following adjustment have been properly completed.

* Photoconductor phase adjustment (ADJ M8)
* Image skew adjustment (scanner (writing) unit) (ADJ M7)

1) Enter the SIM 50-22 mode.

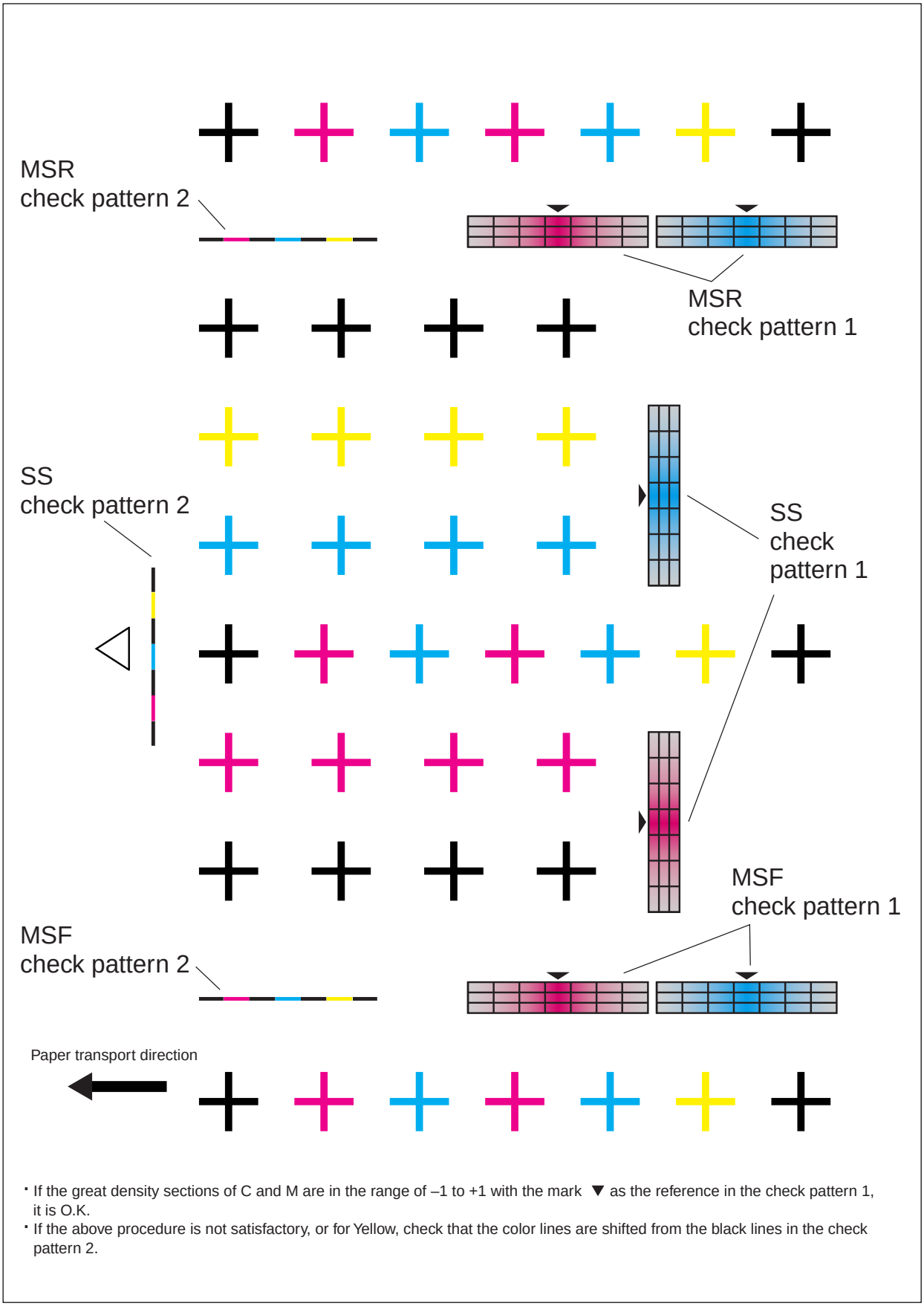




2) Press the [EXECUTE] key.
A4R or 8 1/2 × 11R paper is automatically selected and a check pattern is printed.

[Main/sub scanning resist automatic adjustment check pattern]

A4R or 8 1/2 x 11R



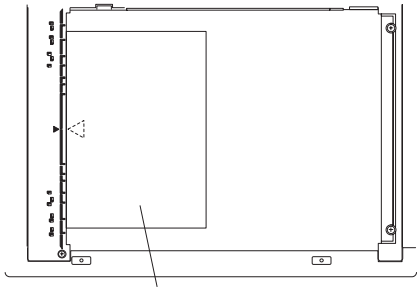
- If the great density sections of C and M are in the range of –1 to +1 with the mark ▼ as the reference in the check pattern 1, it is O.K.
- If the above procedure is not satisfactory, or for Yellow, check that the color lines are shifted from the black lines in the check pattern 2.

3) Check the following items with the check pattern.
   * Check that the section of the greatest density of C and M in MSR check pattern, MSF check pattern 1, and SS check pattern is in the range of ± 1 with the black triangle mark as the center reference.
     If this check is difficult, perform the following procedure.
     Check that the print lines of M and C in SS check pattern 2, MSF check pattern 2, and MSR check pattern 2 coincide with the print lines of K.
   * Check that the print line of Y in the check (adjustment) pattern of MSR check pattern 2, MSF check pattern 2, and SS check pattern 2 coincides with the print line of K.

If the above conditions are satisfied, cancel the simulation and terminate the adjustment.

If the above conditions are not satisfied, perform the following procedures.

4) Set the printed check (adjustment) pattern on the document table.
   At that time, adjust so that the white triangle mark comes to the center of the left side of the document table, and place 5 sheets of white paper on it.
   Check that the check (adjustment) pattern is in close contact with the document table.



Check (adjust) pattern

5) Press the [EXECUTE] key.
   The check (adjustment) pattern is scanned (read) and the image resist adjustment is automatically performed. (It takes about 30 sec for scanning (reading) and calculation.)

The calculated adjustment value is displayed together with the adjustment result (EXACT, ROUGH, ERROR).

EXACT: The adjustment has been normally completed.

ROUGH: The accuracy of the adjustment is lower than EXACT due to dirt, dusts, and improper placing of the check (adjustment) pattern, etc.

ERROR: Adjustment error due to erroneous scanning

When "ERROR" is displayed, check the following items and repeat procedures from procedure 1 or perform the manual adjustment of image resist (ADJ M9/ADJ 1/ADJ 2).

* The paper is not placed properly.
* Dirt and dust on the glass and mirrors.
* The check (adjustment) pattern is dirty, folded, or not in close contact with the document glass.

When the check (adjustment) pattern is normally scanned (read), the image resist adjustment is automatically performed and EXACT or ROUGH is displayed, go to procedure 5).

6) Press the [EXECUTE] key.
   A4 or 8.5 × 11 paper is automatically selected and a check (adjustment) pattern is printed.

7) Perform the same procedure as procedure 3). If the image resist is within the specified range, adjustment is completed.
   If the adjustment is repeated twice and the image resist is not within the specified range, perform the manual adjustment of image resist (ADJ M9/ADJ 1/ADJ 2).

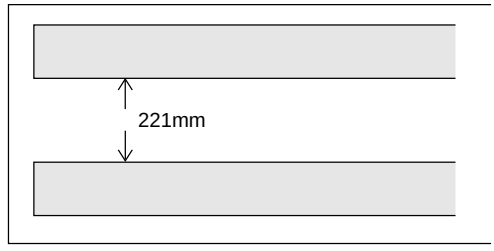
ADJ M9 Main scanning direction copy magnification ratio adjustment (Manual adjustment) (Scanner (Writing) unit)
Main scanning direction image registration adjustment (Manual adjustment) (Scanner (Writing) unit)

ADJ 1 Main scanning direction copy magnification ratio adjustment (Scanner (Writing) unit) (Black)

This adjustment must be performed in the following cases:

- When the black scanner (writing) unit is replaced.
- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.

1) Enter the SIM 50-10 mode.
2) Select H: BLACK LD MAG.
3) Press the [EXECUTE] key.
4) Check that the dimension inside the printed half tone pattern is 221mm.



   Use one of the following paper sizes (A4/A3/11" × 8.5"/11" × 17")

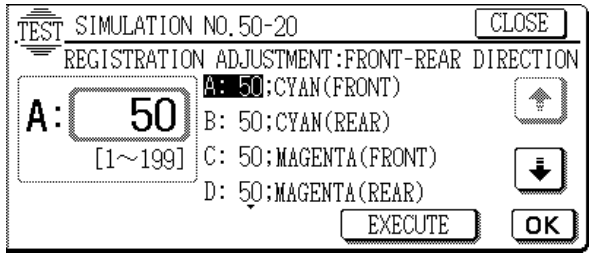
5) If the dimension is not as specified above, change the set value and perform an adjustment again.
   Enter the adjustment value with the 10-key and press the [OK] key.

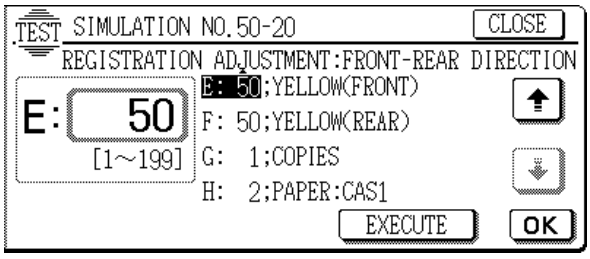
ADJ 2 Main scanning direction color image registration adjustment (Scanner (Writing) unit) (Color)
Main scanning direction copy magnification ratio adjustment (Scanner (Writing) unit) (Color)

This adjustment must be performed in the following cases:

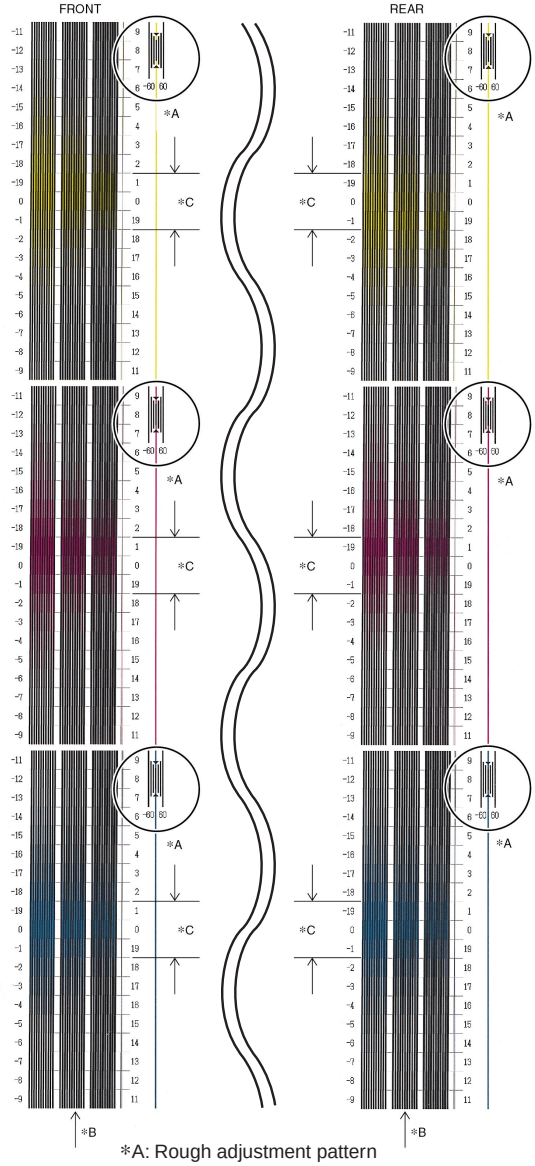
- When the scanner (writing) unit is replaced.
- When the scanner (writing) unit is removed from the machine.
- When the main scanning direction image magnification ratio (scanner (writing) unit (Black)) is performed.
- When a color image mis-resist occurs in the main scanning direction.
- When the installing position is changed.
- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.

1) Enter the SIM 50-20 mode.





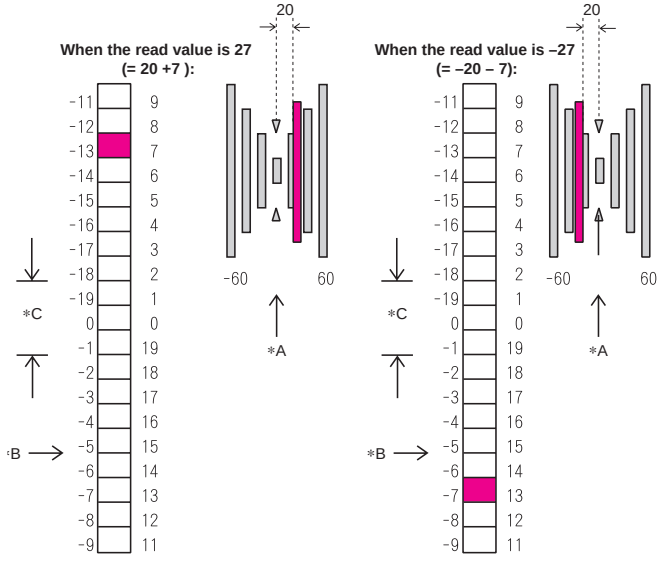
2) Select the paper feed cassette of A3 (11" × 17") paper in the setup item H (PAPER SEL).
   * Use the paper tray at the bottom.
3) Press the [EXECUTE] key. The adjustment pattern is printed.
4) Check the print patterns of the rough adjustment and the fine adjustment for equal color on the front and the rear side.
   Rough adjustment print pattern check: Check that the rough adjustment print pattern is at the center for the rough adjustment reference pattern.
   Fine adjustment print pattern check: Check that the fine adjustment print pattern is at the center for the fine adjustment reference pattern.
   (If the fine adjustment print pattern is in the range of 0 ± 1 for the scale of the fine adjustment reference pattern, there is no need to adjust.)



*A: Rough adjustment pattern
*B: Fine adjustment pattern
*C: Adjustment range (0±1)

[How to read the pattern]

When deflection is made to the positive (+) side in the rough adjustment, increase the value on the positive (+) side.
When the deflection is made to the negative (–) side in the rough adjustment, increase the value on the negative (–) side.

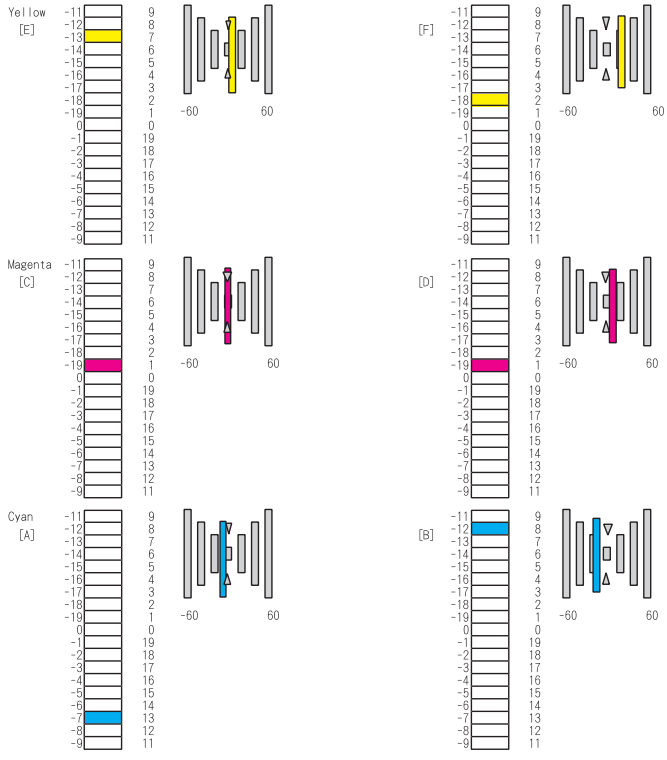


(Example)
When the simulation is set to 105, newly set to 132 (= 105 + 27).

(Example)
When the simulation is set to 105, newly set to 78 (= 105 – 27).

*A: Rough adjustment pattern
*B: Fine adjustment pattern
*C: Adjustment range

[Main scan registration adjustment pattern]



(Example) Set the simulation values as shown below.

A: 100		A: 93 (=100 –7)
B: 112		B: 100 (=112 –12)
C: 95	→	C: 96 (=95+1)
D: 98	Reset value	D: 109 (=98+11)
E: 102		E: 109 (=102+7)
F: 96		F: 118 (=96+22)

If the rough adjustment pattern or the fine adjustment pattern is not in the above range, perform the following procedures.

5) Calculate the shift from the adjustment reference position for each adjustment mode.
   The sum of the shift of rough adjustment reference and the shift of fine adjustment is the actual shift.
   Shift (Correction value) = Rough adjustment shift + Fine adjustment shift
   The interval between scales of the rough adjustment reference corresponds to 20. Be careful of polarities of the shift (positive or negative) when calculating.
6) Select the mode to be adjusted with the scroll key.
7) Add or reduce to or from the current adjustment value, enter the obtained value, and press the [OK] key.
   - When the shift (correction value) is positive:
     Adjustment value = Current adjustment value + Shift (Correction value)
   - When the shift (correction value is negative:
     Adjustment value = Current adjustment value – Shift (Correction value)
8) Press the [EXECUTE] key.
   The adjustment pattern is printed.
   Check that the conditions of procedure 4) are satisfied.
   Repeat procedures 4) – 8) until the conditions of procedure 4) are satisfied.

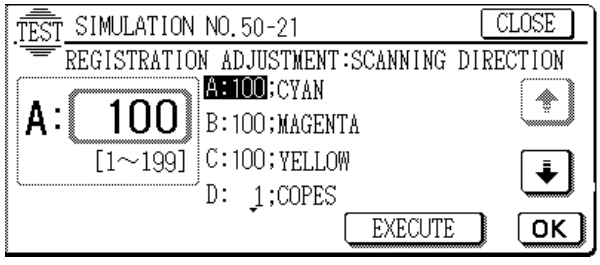
   (Note) When either of the adjustment values of the front and the rear adjustment mode is changed, the other adjustment print pattern may be varied. Be careful of that.
   When the adjustment can be completed with a fine adjustment, perform the front adjustment mode first, and then perform the rear adjustment mode after completion of the front adjustment.

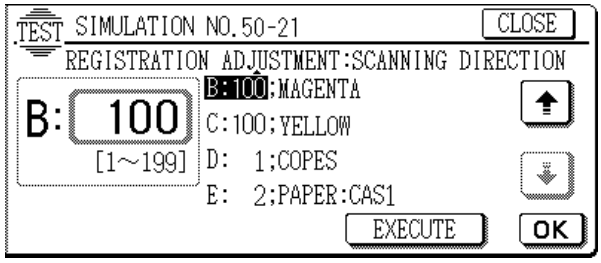
NOTE: Before performing this adjustment, be sure to adjust the K magnification ratio (SIM 50-10, H) properly.

ADJ M10 Sub scanning direction color image resist adjustment (Manual adjustment) (Scanner (Writing) unit) (Color)

This adjustment must be performed in the following cases:

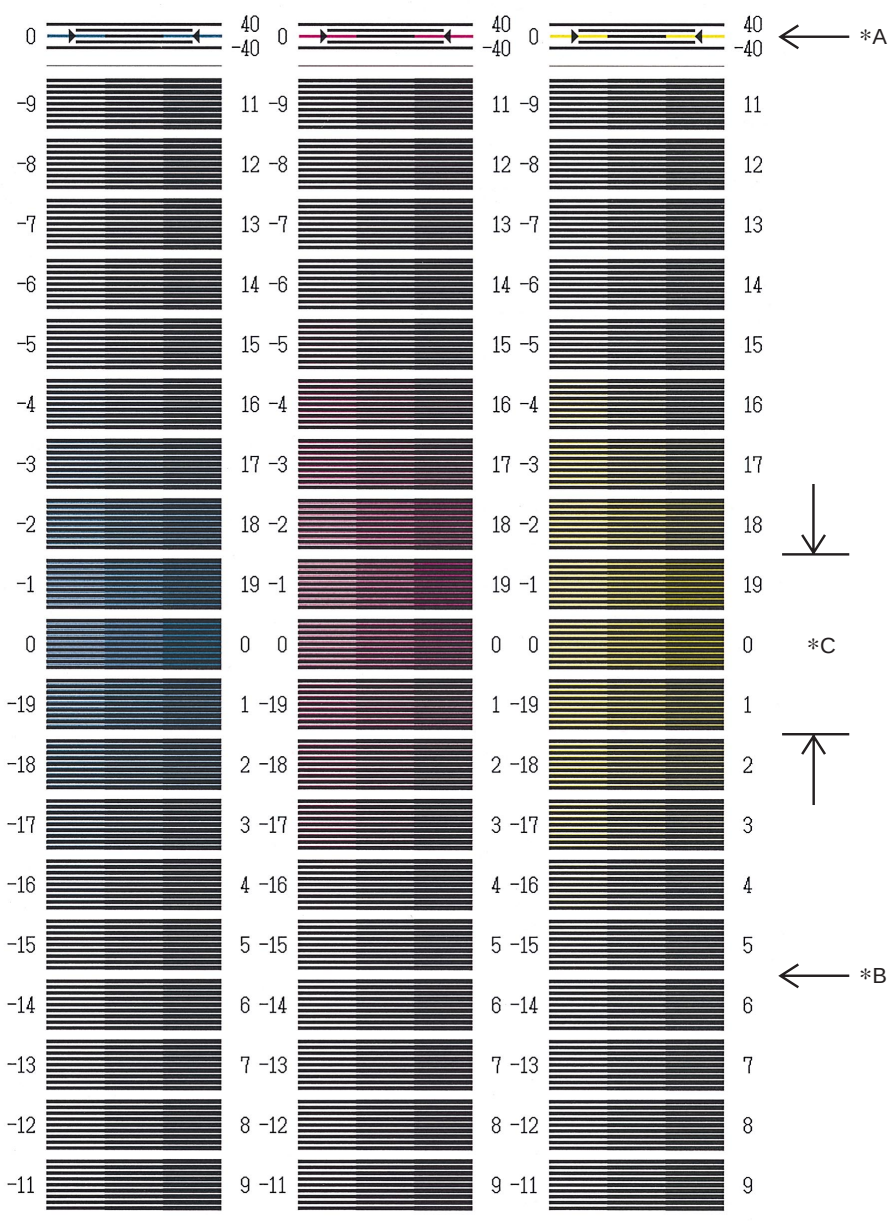
- When the scanner (writing) unit is replaced.
- When the scanner (writing) unit is removed from the machine.
- When a color image mis-resist occurs in the sub scanning direction.
- When the installing position is changed.
- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.





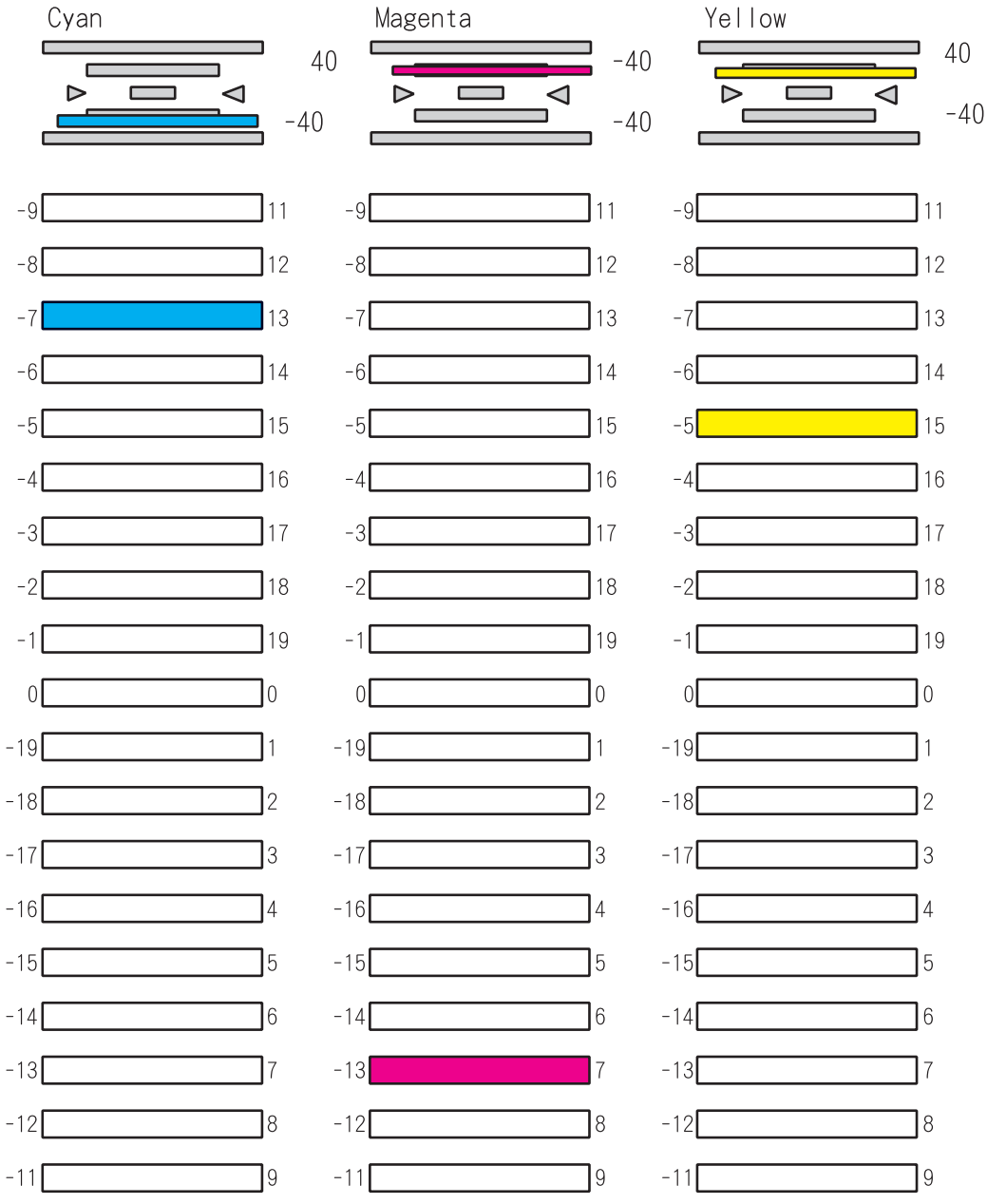
1) Enter the SIM 50-21 mode.
2) Select the paper feed cassette of A4 (8 1/2" × 11") paper in the setup item E (PAPER SEL).
   ∗ Use the paper tray at the bottom.
3) Press the [EXECUTE] key. The adjustment pattern is printed.
4) Check the rough adjustment print pattern position and the fine adjustment print pattern position for each color.
   - Rough adjustment print pattern check
     Check that the rough adjustment print pattern is at the center of the rough adjustment reference pattern.
   - Fine adjustment print pattern check
     Check that the fine adjustment print pattern is at the center of the fine adjustment reference pattern.

   (If the fine adjustment print pattern is in the range of 0 ± 1 for the scale of the fine adjustment reference pattern, there is no need to adjust.)



*A: Rough adjustment pattern
*B: Fine adjustment pattern
*C: Adjustment range

[Sub scan registration adjustment pattern]



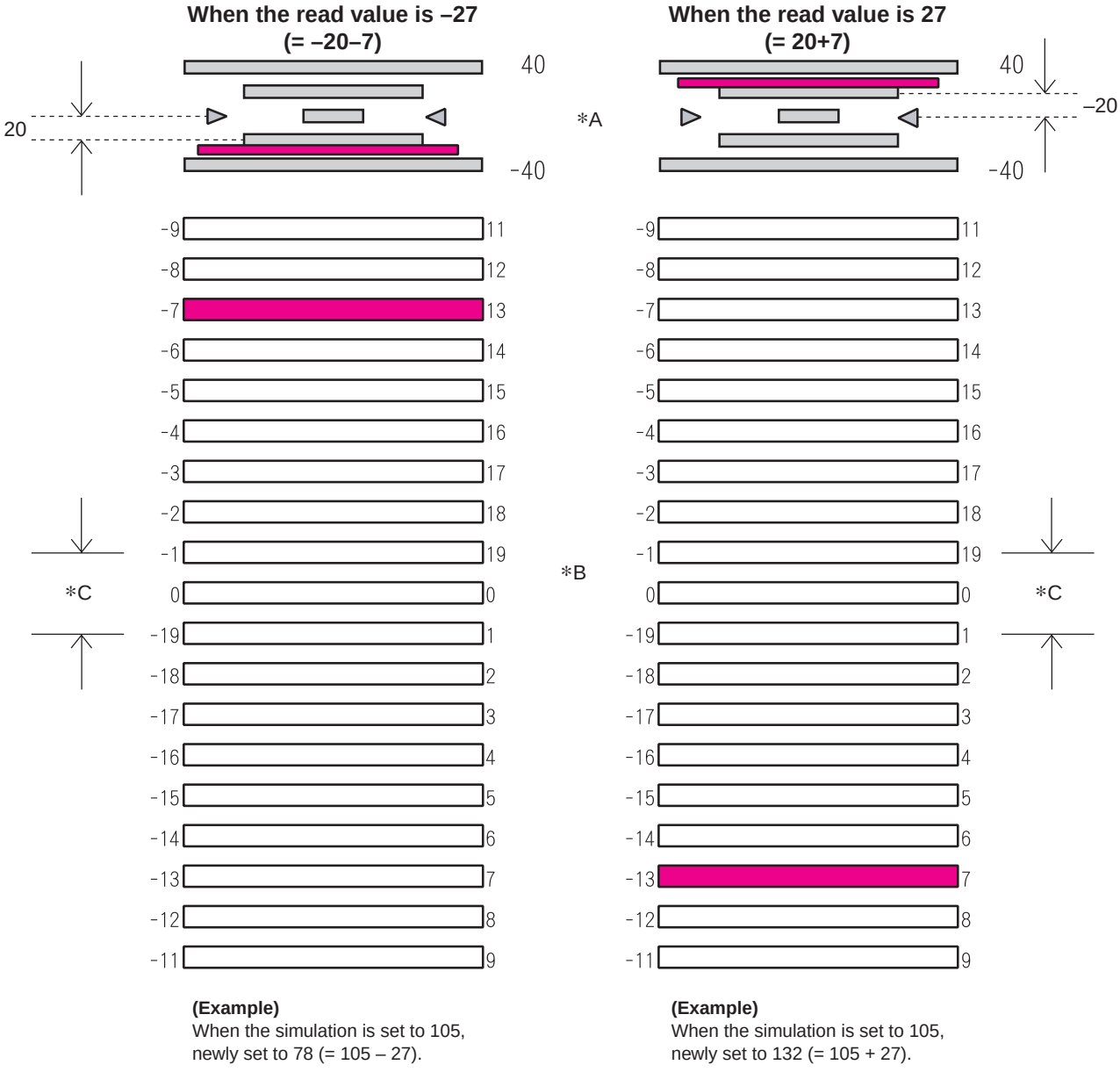
(Example) Set the simulation set values as shown below.

A: 100	→	A: 73 (=100 –27)
B: 112	Set value	B: 129 (=112 + 17)
C: 95		C: 110 (=95+15)

[How to read the pattern]

When deflection is made to the positive (+) side in the rough adjustment, increase the value on the positive (+) side.

When the deflection is made to the negative (–) side in the rough adjustment, increase the value on the negative (–) side.



(Example)
When the simulation is set to 105, newly set to 78 (= 105 – 27).

(Example)
When the simulation is set to 105, newly set to 132 (= 105 + 27).

*A: Rough adjustment pattern
*B: Fine adjustment pattern
*C: Adjustment range

If the rough adjustment pattern or the fine adjustment pattern is not in the above range, perform the following procedures

5) Calculate the shift from the adjustment reference position for each adjustment mode.
   The sum of the shift of rough adjustment reference and the shift of fine adjustment is the actual shift.
   Shift (Correction value) = Rough adjustment shift + Fine adjustment shift
   The interval between scales of the rough adjustment reference corresponds to 20. Be careful of polarities of the shift (positive or negative) when calculating.
6) Select the mode to be adjusted with the scroll key.
7) Add or reduce to or from the current adjustment value, enter the obtained value, and press the [OK] key.
   - When the shift (correction value) is positive:
     Adjustment value = Current adjustment value + Shift (Correction value)
   - When the shift (correction value is negative:
     Adjustment value = Current adjustment value – Shift (Correction value)
8) Press the [EXECUTE] key.
   The adjustment pattern is printed.
   Check that the conditions of procedure 4) are satisfied.

Repeat procedures 4) – 8) until the conditions of procedure 4) are satisfied.

NOTE: Before performing this adjustment, SIM 44-20 or 44-31 (drum phase adjustment) must have been adjusted properly.

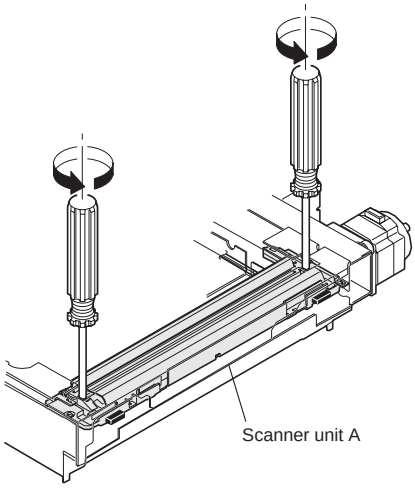
ADJ M11 Image distortion adjustment

This adjustment must be performed in the following cases:

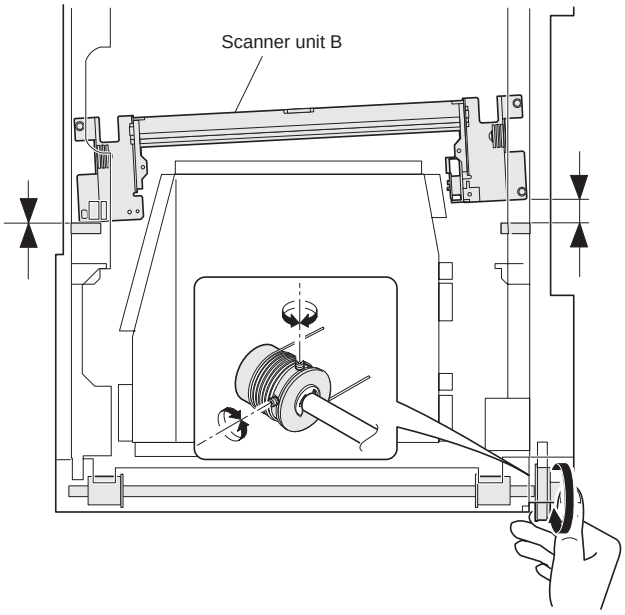
- When the scanner (reading) section is disassembled.
- When a copy image distortion occurs.

ADJ 1 Scanner (Reading) unit parallelism adjustment

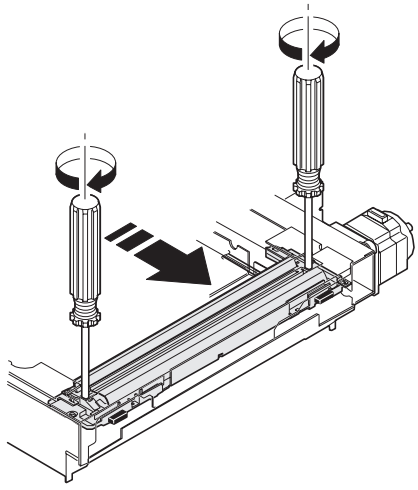
1) Loosen the screw which is fixing the scanner unit A and the drive wire, and remove the scanner unit A from the drive wire.

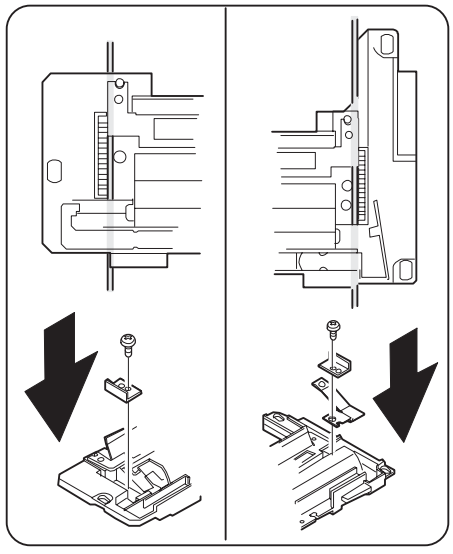


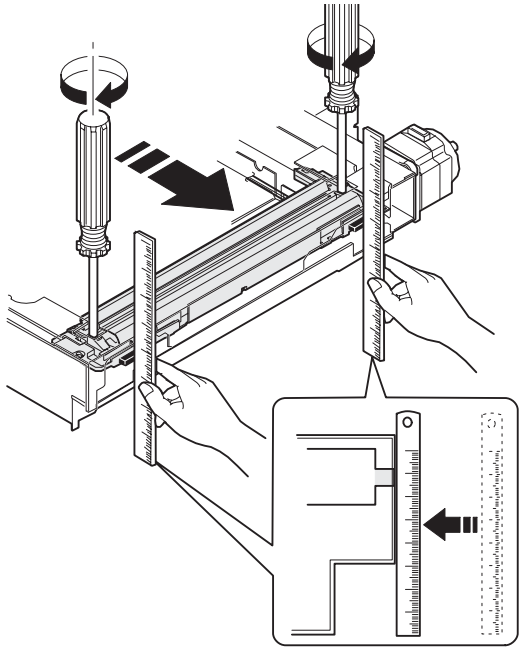
2) Manually turn the scanner drive gear to bring the scanner unit B into contact with the stopper.
   At that time, if the scanner unit B makes contact with the two stoppers on the front and the rear frame simultaneously, the parallelism of the scanner unit B is proper.
   If not, perform the following procedures.
3) Loosen the fixing screw of the scanner unit drive pulley on the side where the scanner unit B is not in contact with the stopper.



4) While keeping the scanner unit drive shaft stationary, turn the scanner unit drive pulley manually so that the scanner unit B makes contacts with two stoppers on the front and the rear frame side simultaneously. (Change the relative positions of the scanner unit drive pulley and the drive shaft.)
5) Fix the scanner unit drive pulley fixing screw which was loosened in procedure 3).
6) Perform procedure 2).
   Repeat procedures 3) – 6) until the parallelism of the scanner unit B becomes proper.
7) With the scanner unit B in contact with two stoppers on the front and the rear frame side simultaneously, slide the scanner unit A until it comes to the right end of the frame, and fix it to the drive wire with the fixing screw.

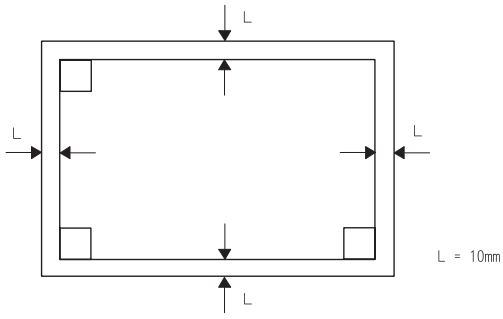




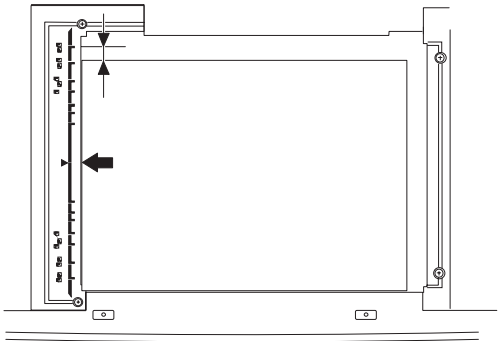


ADJ 2 Image sub scanning direction distortion adjustment

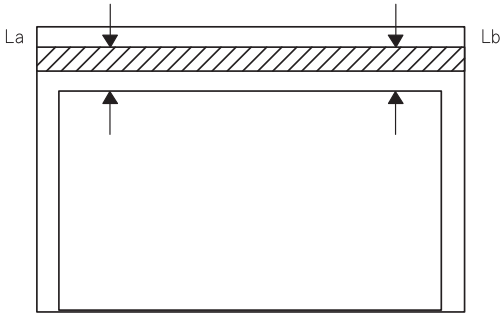
1) Make a test chart on A3 (11 × 17") paper as shown below. (Draw a rectangular with four right angles.)



2) Set the test chart made in procedure 1) on the document table. (Leave a space of about 30mm between the reference position and the test chart. With the document cover open, make a copy on A3 (11 × 17").

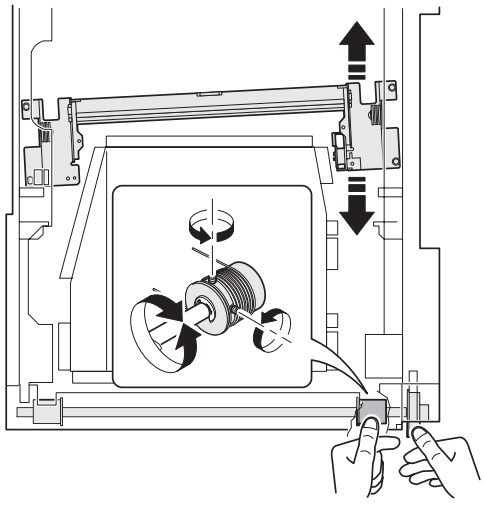


3) Check for distortion in the sub scanning direction.
If La = Lb, there is no distortion.



If there is some distortion in the sub scanning direction, perform the following procedures.

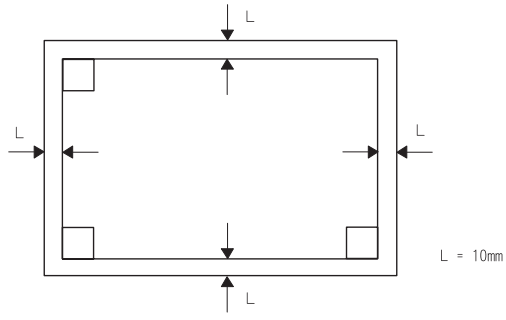
4) Loosen either of two fixing screws of the scanner unit drive pulley. (Either one on the front or the rear side will do.)



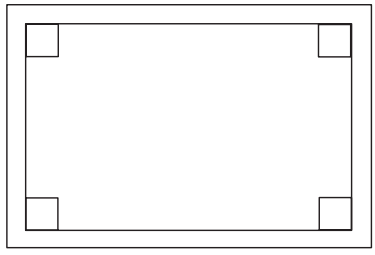
5) With the scanner unit drive shaft kept stationary, turn the scanner unit drive pulley manually to change the parallelism of scanner units A and B. (Change the relative positions of the scanner unit drive pulley and the drive shaft.)
6) Tighten the scanner unit drive pulley fixing screw.
Repeat procedures 2) – 6) until the condition of procedure 3) is satisfied.

ADJ 3 Image scanning direction distortion adjustment

1) Make a test chart on A3 (11 × 17") paper as shown below. (Draw a rectangle with four right angles.)

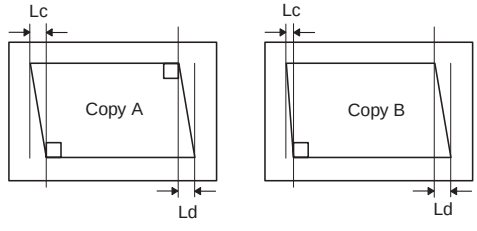


2) Set the test chart made in procedure 1) on the document table. With the document cover open, make a copy on A3 (11 × 17").
3) Check for distortion in the main scanning direction.
If the four angles of the rectangle on the copy are right angles, there is no distortion. (Completion of the adjustment)



If there is some distortion in the main scanning direction, perform the following procedures

4) Check for a difference between the right distortion and the left distortion (balance).



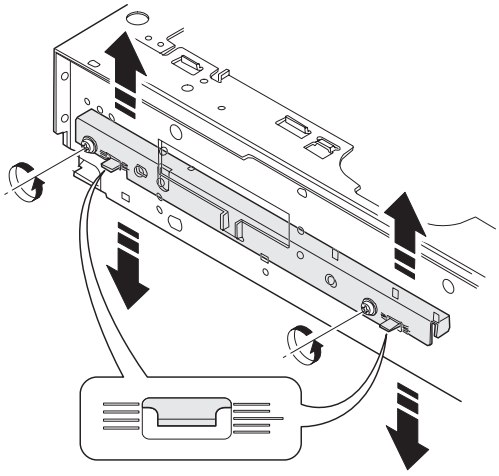
Left distortion is equal to right distortion.
Lc = Ld

Left distortion is not equal to right distortion
Lc ≠ Ld

If Lc = Ld, there is no difference between the left distortion and the right distortion.

If the above condition is satisfied, go to procedure 6).
If the above condition is not satisfied, perform the following procedures.

5) Change the height balance of the front frame side scanner rail.
Perform procedures 2) – 5) until there is no difference between the left distortion and the right distortion.



6) When there is no difference between the left distortion and the right distortion, change the height of the scanner rail on the front frame side.
7) Set the test chart made in procedure 1) on the document table, and make a copy on A3 (11 × 17") paper. Check that the main scanning distortion is within the specified range.
Repeat procedures 6) – 7) until the main scanning direction distortion is within the specified range.

ADJ M12 Image focus (main scanning direction copy magnification ratio) adjustment (CCD position adjustment)

This adjustment must be performed in the following cases:

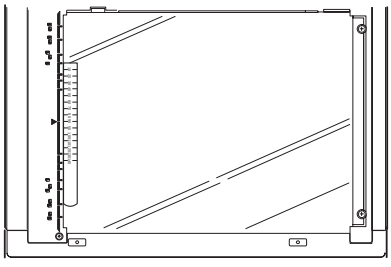
- When the CCD unit is removed from the machine.
- When the CCD unit is replaced.
- When the copy image focus is improper.
- When the copy magnification ratio in the main scanning direction is improper.

(CCD unit installing position adjustment)

This adjustment is performed in the following case:

- when the CCD unit is replaced.

1) Enter the SIM 48-1 mode.
2) Set the set item B to 50 (initial value).
3) As shown in the figure below, place a scale on the original table.



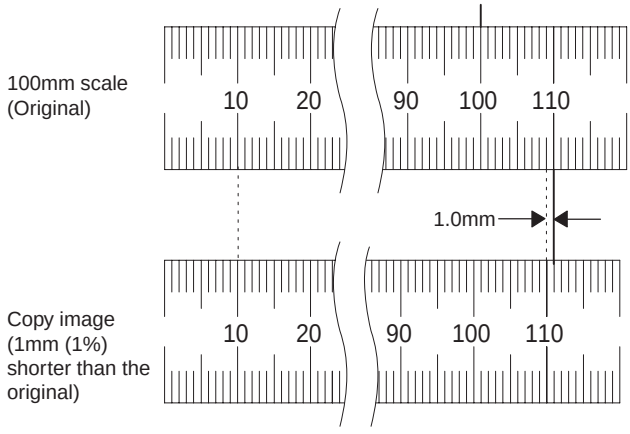
4) Make a normal copy on A4 paper.
5) Compare the scale image length and the actual scale length.
6) Obtain the main scanning direction copy magnification ratio according to the following formula.

Main scanning direction copy magnification ratio

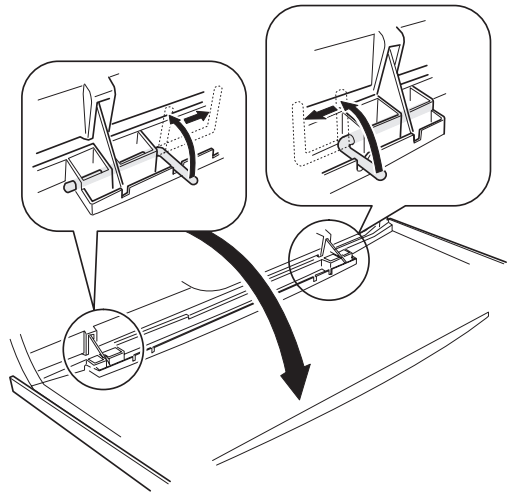
$$= \frac{(\text{Original length} - \text{Copy length})}{\text{Original length}} \times 100[\%]$$

(Example) Fit 10mm of the scale with 10mm of the copied scale and compare them.
Main scanning direction copy magnification ration

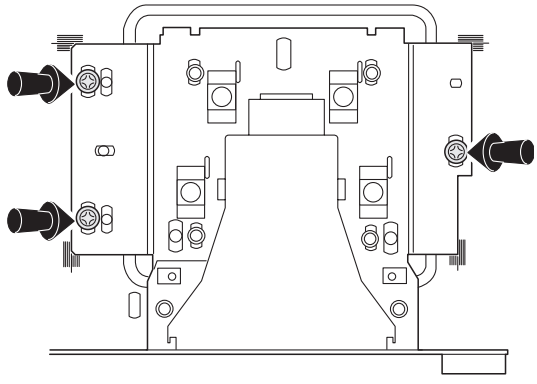
$$= \frac{100 - 99}{100} \times 100 = 1$$



7) Remove the original guide L and R, and remove the table glass.
8) Remove the dark box cover.
9) Remove the slide pin of the front cover unit.

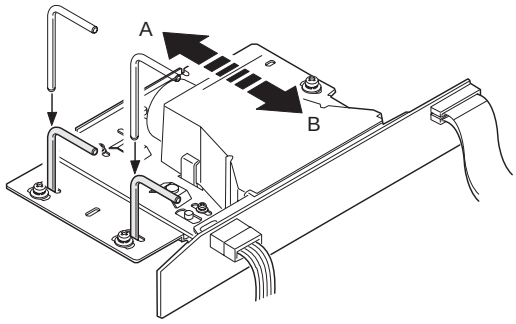


10) Loosen the CCD unit fixing screws.



* Never loosen the screws which are not indicated in the figure above. If loosened, the CCD unit must be replaced.

11) Insert the slide pin as shown below, and make positioning in the sub scanning direction. (Initial positioning is completed.)



12) Make a copy in the initial position and check the copy magnification ratio again.

If the copy magnification ratio is not in the range of 100 ± 1%, perform the following procedure.
Repeat procedures 12) and 13) until the copy magnification ratio is within the range of 100 ± 1%.

When the copy image is longer than the original, move in the direction of B.
When the copy image is shorter than the original, move in the direction of A.
One scale of scribe line corresponds to 0.2%.

13) Change the installing position in the CCD sub scanning direction to adjust the magnification ratio.

NOTE: Due to the structure of the optical system, when the CCD unit fixing position is changed with SIM 48-1 set to 50, the copy magnification ratio is adjusted to the specified level (100 ± 1.0%) and the specified resolution is provided.

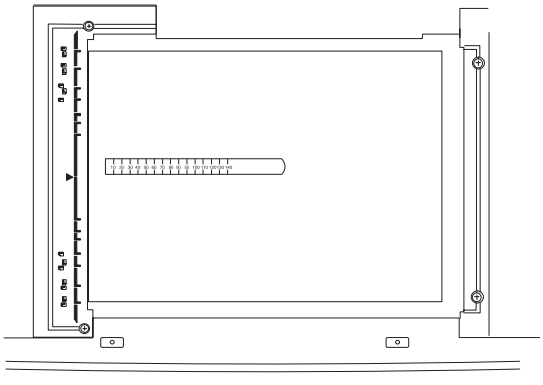
ADJ M13 Sub scanning direction copy magnification ratio adjustment

This adjustment must be performed in the following cases:

- When the copy magnification ratio in the copy image sub scanning direction is improper.
- When the scanner motor is replaced.
- When the scanner motor control PWB is replaced.
- When a U" trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

Before this adjustment, perform the focus adjustment (CCD unit installing position adjustment).

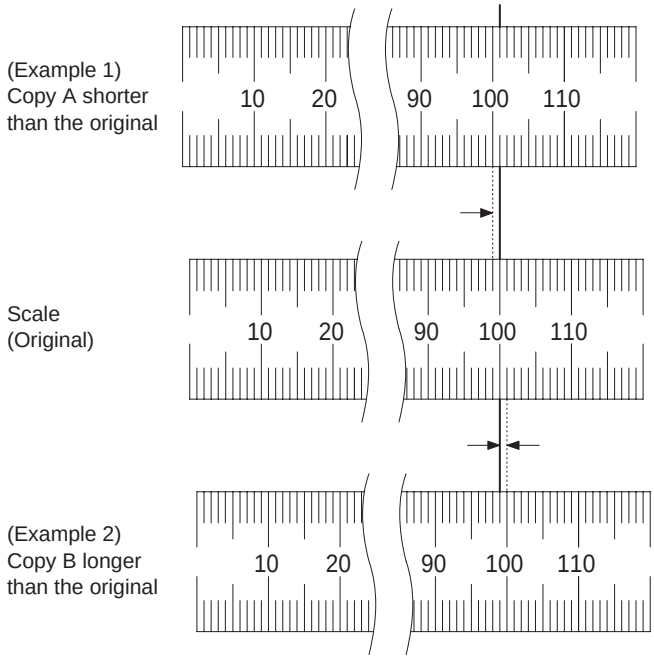
1) Place a scale on the original table as shown below.



2) Enter the SIM 48-1 mode.

3) Make a normal copy and obtain the copy magnification ratios.
Copy magnification ratio

$$= \frac{\text{(Original dimension – Copy dimension)}}{\text{Original dimension}} \times 100[\%]$$



4) Check that the copy magnification ratio is within the specified range (100 ± 1%).
If the copy magnification ratio is within the specified range (100 ± 1%), the adjustment is completed.
If not, perform the following procedure.

5) Change the scan mode adjustment value of SIM 48-1.
When the adjustment value is increased, the sub scanning direction copy magnification ratio is increased.
A change in the adjustment value by 1 corresponds to a change in the copy magnification ratio by about 0.1%.
Repeat procedures 3) – 5) until the coy magnification ratio is within the specified range (100 ± 0.28%).

NOTE: Fix the adjustment value of SIM 48-1 adjustment mode (F – R) to 50.

ADJ M14 Image position adjustment (Main scanning direction) (Print engine)

This adjustment must be performed in the following cases:

- When the paper tray is replaced.
- When the paper tray section is disassembled.
- When the manual paper feed tray is replaced.
- When the manual paper feed tray is disassembled.
- When the duplex section is disassembled.
- When the duplex section is installed or replaced.
- When the large capacity paper feed tray is installed or replaced.
- When the large capacity paper feed tray is disassembled.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

1) Enter the SIM 50-10 mode.

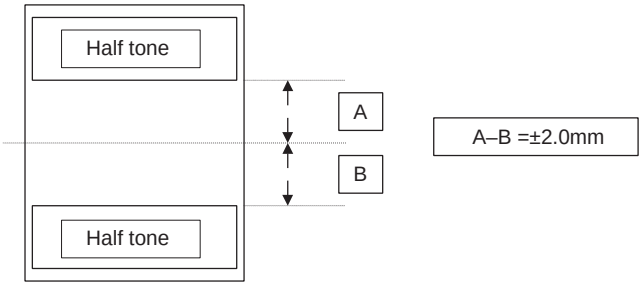
2) Select the paper feed mode to be adjusted with the scroll key.

3) Press the [EXECUTE] key.
The adjustment pattern is printed.

4) Check the adjustment pattern image position.
Measure the dimensions from the paper center to the front and the rear edge of the adjustment pattern to check that they are the same.

If A – B = ± 2.0mm, there is no need to adjust.

If the above condition is not satisfied, perform the following procedure.

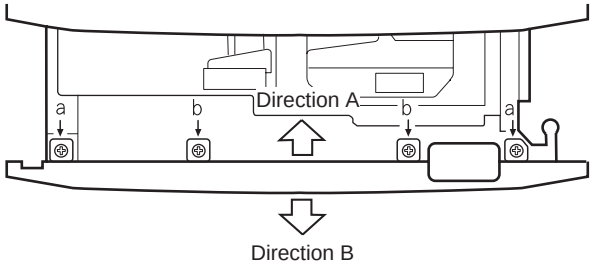


5) Change the adjustment value.
   (Enter the adjustment value and press the [OK] key.)
   When the adjustment value is increased, the image is shifted backward.
   When the adjustment value is decreased, the image is shifted forward.
   A change in the set value by 1 corresponds to a change in the shift by about 0.1mm.

Repeat procedures 3) – 5) until the condition of procedure 4) is satisfied.

If the above condition cannot be satisfied with the above procedures, perform the following procedures.

6) Loosen the paper feed tray cover fixing screw, and shift the installing position in the arrow direction.
   Perform procedures from 2) again.



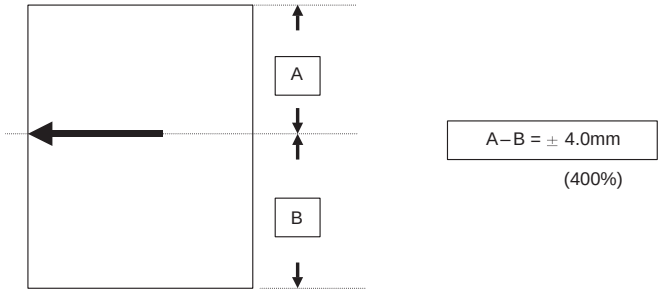
Perform the above procedures for all paper feed units.

ADJ M15 Image position adjustment (Main scanning direction) (Scanner (Writing))

This adjustment must be performed in the following cases:

- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- When the RADF section is disassembled.
- When the RADF unit is installed.
- When the RADF unit is replaced.
- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.

1) Set the adjustment chart on the document table.
2) Enter the SIM 50-12 mode.
   The copy magnification ratio is automatically set to 400%.
3) Select the OC mode with the scroll key.
4) Press the COPY key. A copy is made.
5) Check the copy image center position.
   If A – B = ± 4.0mm, there is no need to adjust. (400%)
   If the above condition is not satisfied, perform the following procedures.



6) Change the adjustment value.
   (Enter the adjustment value and press the OK key.)
   When the adjustment value is increased, the image is shifted backward. When the adjustment value is decreased, the image is shifted forward.
   A change in the set value by 1 corresponds to a change in the shift by about 0.4mm. (400%)

Repeat procedures 4) – 6) until the condition of procedure 5) is satisfied.

ADJ M16 "Image position, image loss, void area adjustment"

This adjustment must be performed in the following cases:

- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- When the resist roller section is disassembled.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

This adjustment uses SIM 50-2 and SIM 50-1.

The above two simulations are used in the following manner.

SIM 50-2: Rough adjustment
SIM 50-1: Fine adjustment

If the desired value is obtained by SIM 50-2, there is no need to perform SIM 50-1.

(Adjustment item)

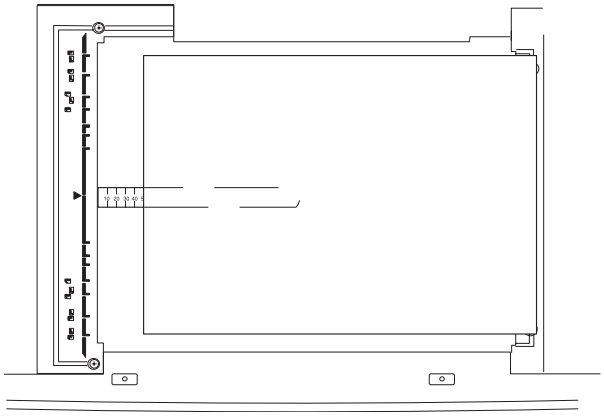
No.	Adjustment item	SIM 50-2 set item	SIM 50-1 set item	Adjustment value
1	Lead edge image loss	IMAGE LOSS	IMAGE LOSS	4.0 ± 1.0mm
2	Lead edge void area	DEN-A	DEN-A	4.0 ± 1.0mm
3	Rear edge void area	DEN-B	DEN-B	6.0 ± 1.0mm
4	Image reference position		RRC-A	
5	Paper timing		RRC-B	
6	Distance between image lead edge position and scale of 10mm × 10	L1		
7	Distance between paper lead edge and image lead edge × 10	L2		

Adjustment items 1 – 3 can be adjusted either with SIM 50-1 or with SIM 50-2.

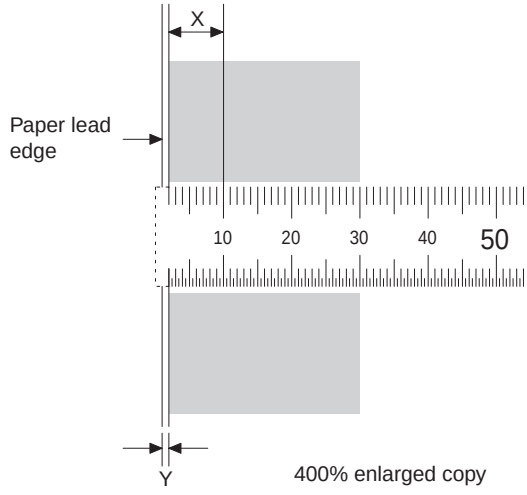
The adjustment values 6 and 7 will affect the adjustment items 4 and 5 automatically.

Therefore, adjusting the items 6 and 7 will lead to the same result as adjusting the items 4 and 5 directly.

1) Place a scale on the original table as shown below.
   Note that the scale must be placed in parallel with the scanning direction and that the scale lead edge must be in close contact with the original guide plate.



2) Enter SIM 50-2.
3) Set IMAGE LOSS and DEN-A to "20".
4) Set all the set items of L1 and L2 to "0".
5) Make a copy at 400%. (Original table mode)
6) Measure the copied image dimensions X and Y.
   X: Distance between the copy image lead edge and the scale of 10mm
   Y: Distance between the paper lead edge and the copy image lead edge.



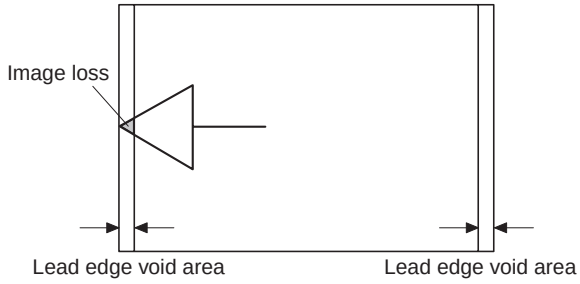
7) Multiply X, Y, and Z by 10 to obtain L1, L2, and L3 respectively. Enter the values of L1, L2, and L3.
   L1 = X × 10
   L2 = Y × 10
8) Cancel the simulation, make a copy, and check that the lead edge image loss and void area are within the specified range shown below.
   Lead edge image loss: 4.0 ± 1.0mm
   Lead edge void area: 4.0 ± 1.0mm

If the above specifications are not satisfied, perform the following procedures.

9) Enter SIM 50-1.
10) Set a scale in the same manner as procedure 3), and make a copy at 50% and at 400% in the original table mode.
11) Measure the distance between the paper lead edge and the copy image lead edge of 50% copy and of 400% copy.
12) Check that there is no difference between the above distance of 50% copy and that of 400% copy.
    If there is a difference of 1.5mm or above, change the adjustment value of RRC-A.

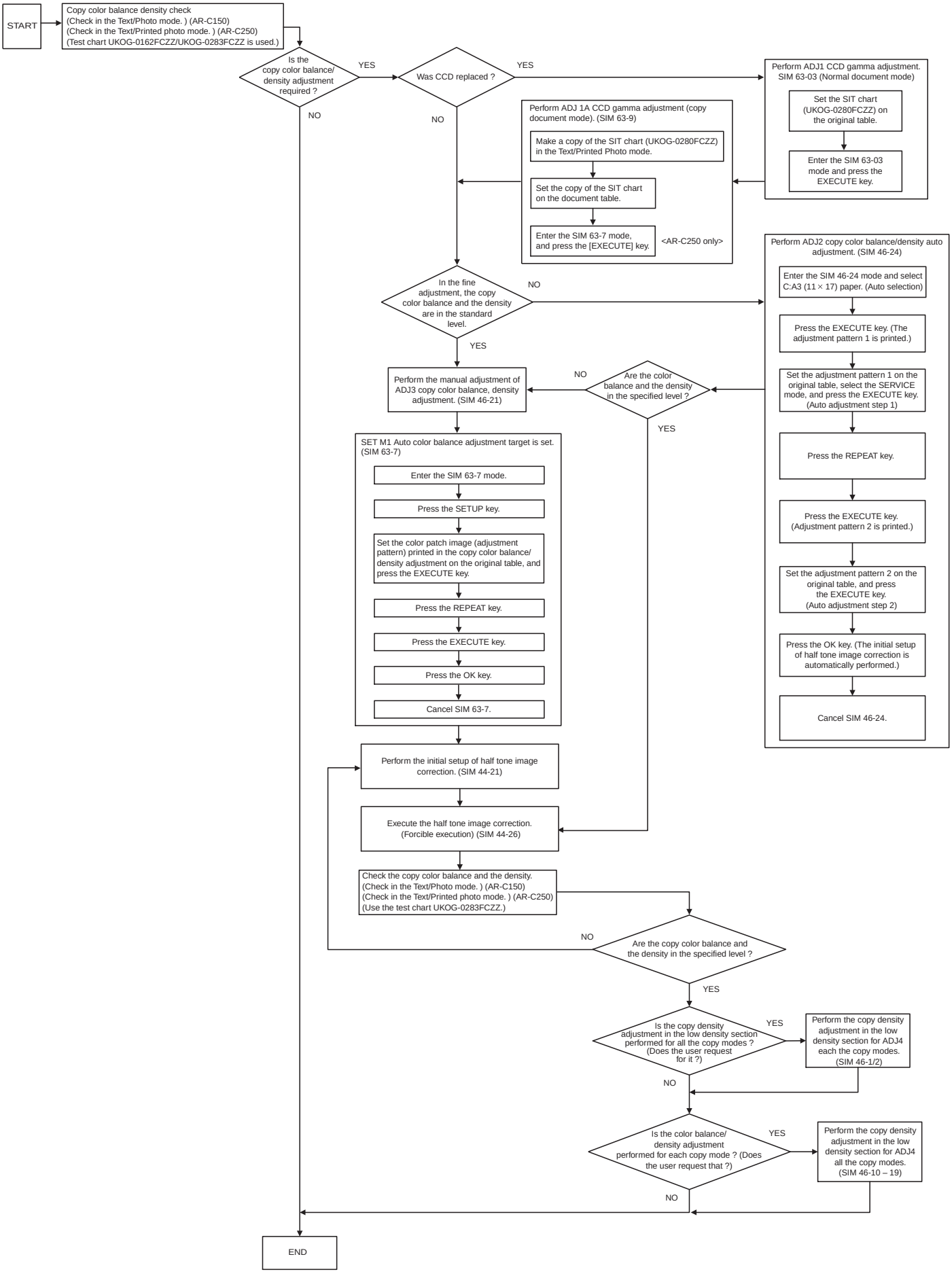
Repeat procedures 10) to 12) until the above specification is satisfied.

13) If the lead edge void area is not within the specified range, change the DEN-A value.
14) If the lead edge void area is not within the specified range, change the IMAGE LOSS value.
15) If the rear edge void area is not within the specified range, change the DEN-B value.



	Adjustment item	Adjustment value	Note
IMAGE LOSS	Lead edge image loss	4.0 ± 1.0mm	The greater the set value is, the greater the image loss is.
DEN-A	Lead edge void area	4.0 ± 1.0mm	The greater the set value is, the greater the void area is.
DEN-B	Rear edge void area	6.0 ± 1.0mm	The greater the set value is, the greater the void area is.

ADJ M17 Image quality adjustment



Copy color balance and density check

Check the color balance and the density by making copies of Sharp gray chart and the serviceman chart.

a. Note for the copy color balance check

To check the copy color balance and the density, use Sharp gray chart and the serviceman chart and set the copy density in the Text/Printed Photo mode (AR-C250) Text/Photo mode (AR-C150) to Manual 3 and make a copy in the color mode and in the black and-white mode. At that time, the color balance adjustment of the user program must be set to the default (center).

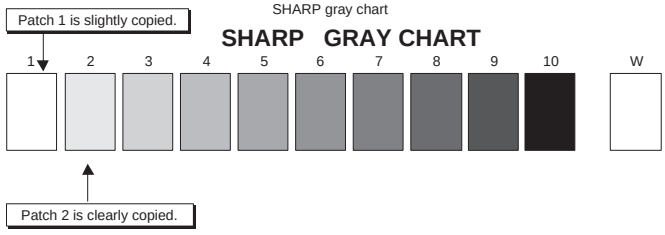
Be sure to use the specified paper for color.

[Sharp gray chart]

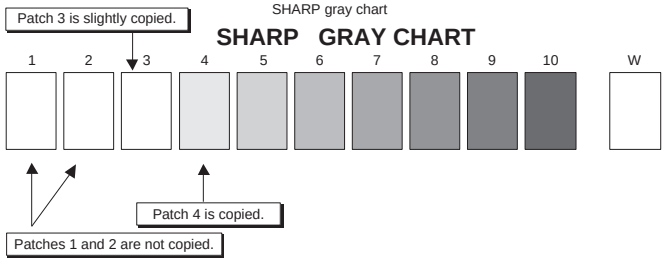
The copy image density of Sharp gray chart must be as follows:

(Color copy) <AR-C150/C250>

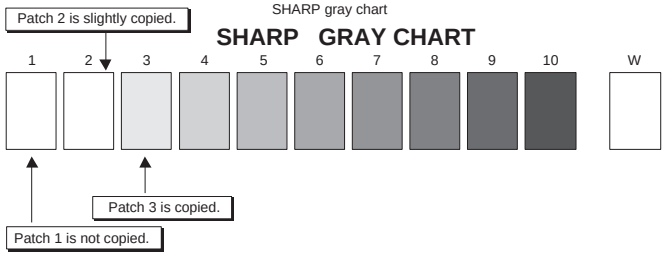
NOTE: Use the color test chart (UKOG-0283FCZZ) to check the color balance.



(Black-and-white copy) <AR-C150>



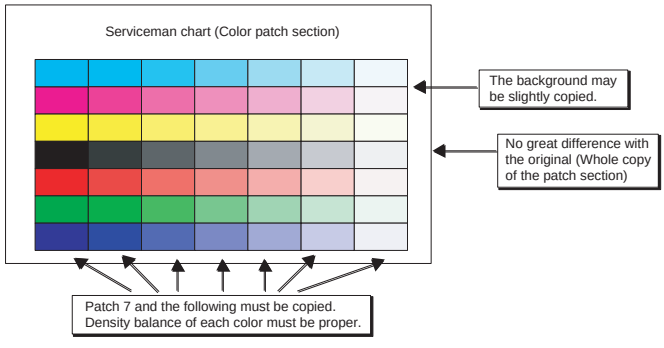
<AR-C250>



[Serviceman chart (UKOG-0283FCZZ)]

Check the color balance of Serviceman chart copy is as shown below.

(Color copy) <AR-C150/C250>



ADJ 1 CCD gamma adjustment (CCD calibration) (Normal document mode) (AR-C100/C150/C250)

This adjustment must be performed in the following cases:

- When the CCD unit is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

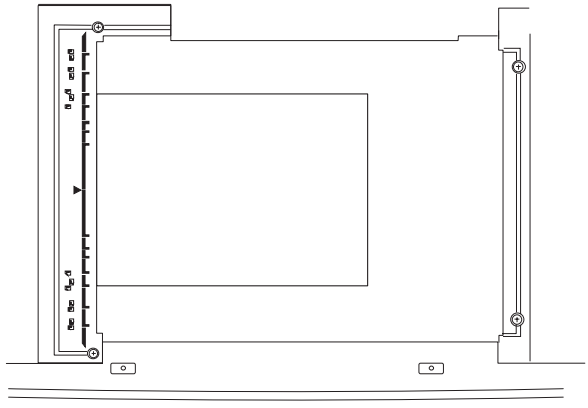
When the CCD unit is replaced, be sure to perform this adjustment.

(1) Precautions for adjustment

1) Check that the table glass and No. 1, 2, 3 mirrors and lenses are free from dust and dirt. (If there is dust and dirt, clean with alcohol.)
2) Check that there is no dirt or scratch on BK1 and BK2 patches of SIT chart (UKOG-0280FCZZ).
   If there is dirt, clean with alcohol.
   If there is scratch, replace the chart with new one.

(2) Adjustment procedures

1) Set the SIT chart (UKOG-0280FCZZ) to the left edge of the original table, and fit the center of SIT chart with the center of the glass holder.



When SIT chart is not available, execute SIM 63-5 to set the CCD gamma to the default. This method, however, provides a lower adjustment accuracy than the method by using SIT chart.

NOTE: Check that the SIT chart (UKOG-0280FCZZ) is closely placed on the original table.

2) With the SIT chart fixed, close the original cover.
3) Enter the SIM 63-03 mode, and press the [EXECUTE] key.
   The automatic adjustment is started. During the automatic adjustment, the [EXECUTE] key is highlighted. When the adjustment is completed, the key returns to the normal display.

NOTE: The SIT chart (UKOG-0280FCZZ) is affected by light (especially by ultraviolet rays) and temperature and humidity. Put it in a bag (clear file, etc.) and store in a dark place.
The life of the SIT chart is one year. Check the manufacturing date specified on the chart and replace every one year.

If the SIT chart is not available, execute SIM 63-5 instead of the above procedure. This sets the CCD gamma to the default. The accuracy of this method is lower than the method using the SIT chart.

ADJ 1A CCD gamma adjustment (CCD calibration) (Copy document mode) (AR-C250 only)

This adjustment is the CCD gamma adjustment (CCD calibration) for the copy document copy mode, and is different from the CCD gamma adjustment (CCD calibration) in the normal document copy mode (ADJ M17/ADJ 1). In the AR-C250, there are above two kinds of the CCD gamma adjustment (CCD calibration), and both adjustments are required.

This adjustment is required in the following cases:

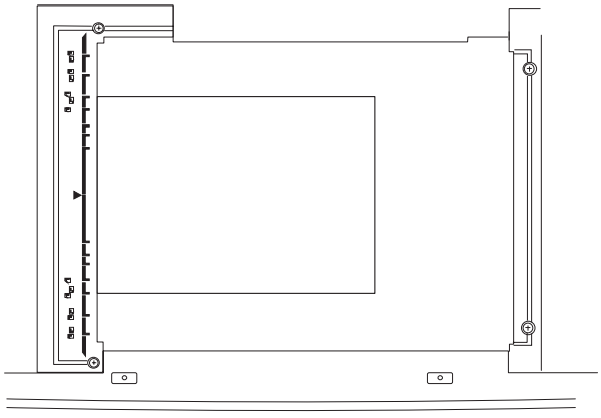
- When the CCD unit is replaced.
- When U2 trouble occurs.
- When the ICU MAIN PWB is replaced.
- When the EEPROM of the ICU MAIN PWB is replaced.

(1) Note before adjustment

* Check that the table glass, No. 1/2/3 mirrors, and the lens surface are free from dirt and dust.
  (If dirt or dust is found, clean with alcohol.)
* Check that the patches of BK1 and BK2 of the SIT chart (UKOG-0280 FCZZ are free from dirt or dust.
  If dirt or dust is found, clean with alcohol.
  If any damage is found, replace with a new one.
* Since this adjustment is based on the normal document copy mode CCD gamma adjustment (CCD calibration) (ADJ M17/ADJ 1), the said adjustment must have been completed before execution of this adjustment.
  The copy color balance must also have been adjusted properly.

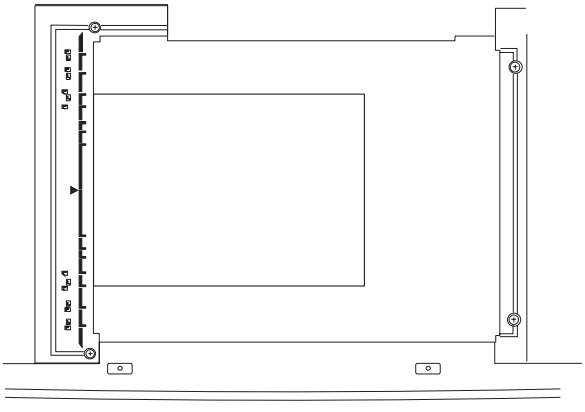
(2) Adjustment procedure

1) Place the SIT chart (UKOG-0280FCZZ) on the left edge of the document table, and fit the center of the SIT chart with the center of the glass holder.



NOTE: Check that the SIT chart (UKOG-0280FCZZ) is in close contact with the document table.

2) Close the document cover without shifting the SIT chart (UKOG-0280FCZZ).
3) Make a copy in the Text/Printed Photo mode. (Be sure to use the specified copy paper.)
4) Set the copy made in procedure 3) on the document table so that the center of the copy paper comes to the center of the left edge of the document table.



5) Enter the SIM 63-09 mode and press the [EXECUTE] key.

The automatic adjustment is performed. During the adjustment, the [EXECUTE] key is highlighted. When the adjustment is completed, the [EXECUTE] key returns to the normal display.

6) Cancel the simulation mode.

NOTE: The SIT chart (UKOG-0280FCZZ) is affected by lights (especially ultra-violet rays) and temperature and humidity. Store it in a clear file (nylon file) in a dark place.
The valid life of the SIT chart is about one year. Replace it with a new one when the valid life is expired. (The manufacturing date is specified on the SIT chart.)

ADJ 2 Copy color balance adjustment (Auto)

This adjustment must be performed in the following cases:

- When a consumable part (developer, OPC drum, the transfer belt) is replaced.
- When the CCD unit is replaced.
- When the scanner (reading) section is cleaned.
- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.

a. Outline

The color balance adjustment (auto adjustment) is the automatic adjustment of cyan, magenta, yellow, and black copy density with SIM 46-24 or the user program.

There are following two modes of auto color balance adjustment.

1) Auto color balance adjustment by the serviceman (with SIM 46-24)
2) Auto color balance adjustment by the user (with the user program) (The color balance target becomes the service target.)

The auto color balance adjustment by the user is provided in order to reduce the number of service calls.
If the copy color balance is shifted by some reason, the user performs the color balance adjustment to correct it.
If, however, there is a basic problem in the machine, or if the machine environment is changed largely, this function does not serve as an effective means.
While the automatic color balance adjustment by the serviceman allows adjustment even when the machine environment is changed largely, providing normal color balance. If there is a basic problem in the machine, repair it and adjust to provide normal color balance.
The above points must be fully understood for proper operation.

When this adjustment is performed, the color balance adjustment of all the copy modes are changed.
(However, the color balance adjustment level of the user program is not changed.)

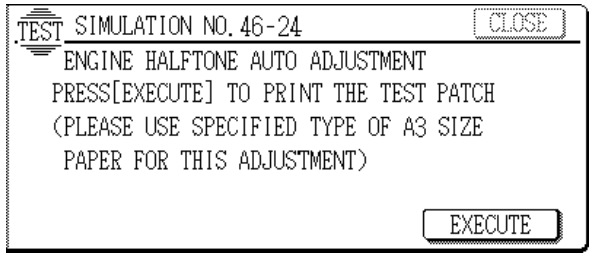
b. Note for performing the color balance adjustment (Auto adjustment)

1) The print engine section must be properly adjusted. (ADJ M2 – M16)
2) CCD gamma adjustment must be properly adjusted. (ADJ M1)
3) When setting the color patch image (adjustment pattern) paper on the original table, place 5 sheets of white paper on the color patch image paper.
4) Be sure to use the specified color paper.

c. Adjustment procedure

(Auto color balance adjustment by the serviceman)

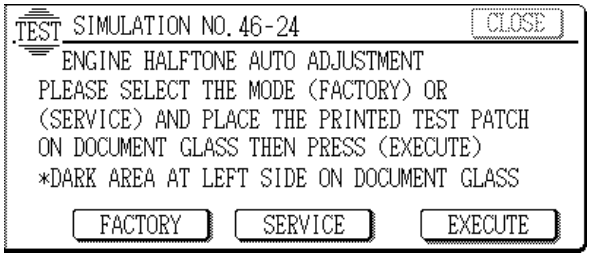
1) Enter the SIM 46-24 mode.



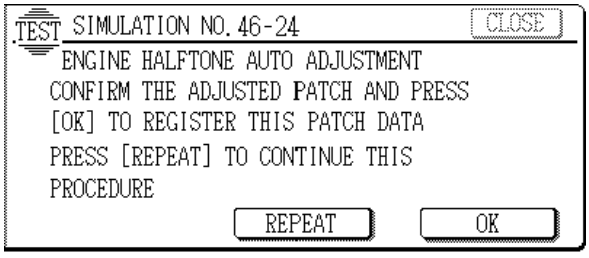
2) Select A3 or 11 × 17 paper (auto select) and press the EXECUTE key.
The color patch image (adjustment pattern) is printed.

3) Set the color patch image (adjustment pattern) printed in procedure 2) on the original table so that the dark density side of the color patch image comes to the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern) paper.

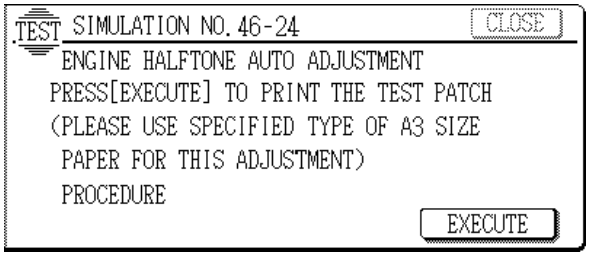
4) Press the SERVICE key on the operation panel and press the EXECUTE key.
The copy color balance adjustment (step 1) is automatically performed, and the color balance check patch image is printed. Wait for a while until the operation menu of procedure 5) is displayed.



5) Press the REPEAT key on the operation panel.

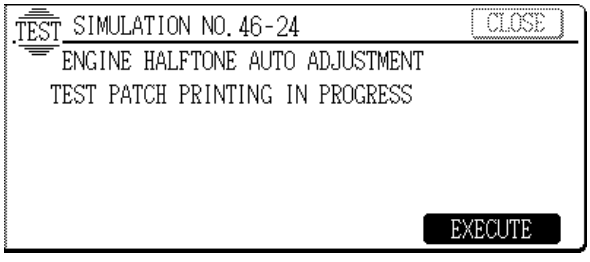


6) Press the EXECUTE key.
The color patch image (adjustment pattern) is printed.

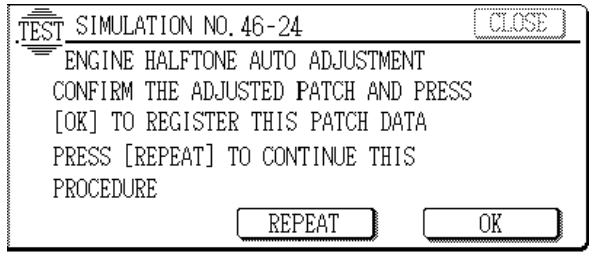


7) Set the color patch image (adjustment pattern) printed in procedure 6) on the original table so that the darker density side comes to the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern) paper.

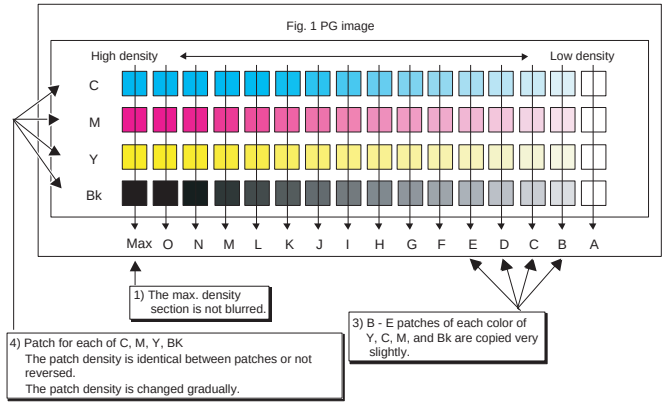
8) Press the EXECUTE key.
The copy color balance adjustment (step 2) is automatically performed, and the color balance check patch image is printed.
Wait for a while until the operation menu of procedure 9) is displayed.



9) Press the OK key on the operation panel.
The initial setup of half tone image correction is performed according to this adjustment data.



10) Check that the color balance check patch image printed at last is within the specified range shown below.



11) Execute the half tone image correction. (Forcible execution) (SIM 44-26)

12) Use the test chart UKOG-0283FCZZ and check the copy color balance and the density in Text/Photo mode. (Refer to the section of the copy color balance and the density.)
If the copy color balance and the density are not in the specified level, perform the following procedures.

13) Perform initial setup of half tone image correction. (SIM 44-21)

14) Perform half tone image correction. (Forcible execution) (SIM 44-26)

15) Use the test chart UKOG-0283FCZZ and check the copy color balance and the density in Text/Photo mode (AR-C150) Text/Printed photo mode (AR-C250). (Refer to the section of the copy color balance and the density.)

Repeat procedures 13) – 15) until the specified level is obtained.

However, repetition is limited to three times.

If repetition of the above procedures does not set the copy color balance and the density to the specified level, there may be some other reason.

Investigate the reason and repair or fix the problem, then perform all the procedures of print quality adjustment from the beginning.

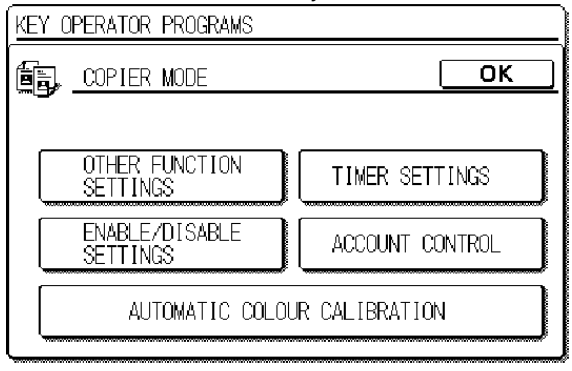
If the above conditions are not satisfied, perform the manual adjustment (SIM 46-21 (ADJ M17/ADJ 3).

(Auto color calibration by the user (Auto color balance adjustment))

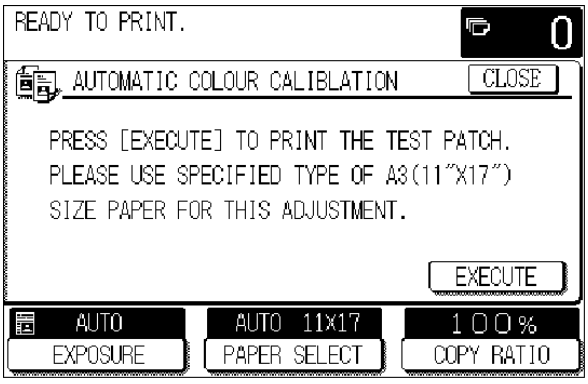
1) Enter the user program mode.

2) Enter the copy mode.

3) Press the auto color calibration key.



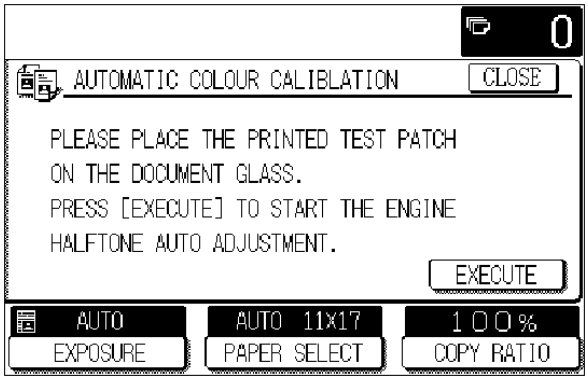
4) Press the EXECUTE key.



The color patch image (adjustment pattern) is printed.

5) Set the color patch image (adjustment pattern) printed in procedure 4) on the original table so that the darker density side comes to the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern) paper.

6) Press the EXECUTE key.
The copy color balance adjustment (step 2) is automatically performed. After completion of the adjustment, the display returns to the original menu.



ADJ 3 Copy color balance adjustment (Manual)

This adjustment must be performed in the following cases:

- When a consumable part (developer, OPC drum, the transfer belt) is replaced.
- When the CCD unit is replaced.
- When the scanner (reading) section is cleaned.
- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.

The color balance adjustment (Manual) is used to manually adjust each color copy density (C, Y, M, K) (15 points for each color) when the result of the previous automatic adjustment is unsatisfactory or when a fine adjustment is required, or when the user requests to change the color balance.

a. Note for the adjustment

This adjustment is performed only for the color patch whose result of the previous automatic adjustment is unsatisfactory.

b. Adjustment procedures

Before performing the adjustment, check that the conditions below are satisfied.

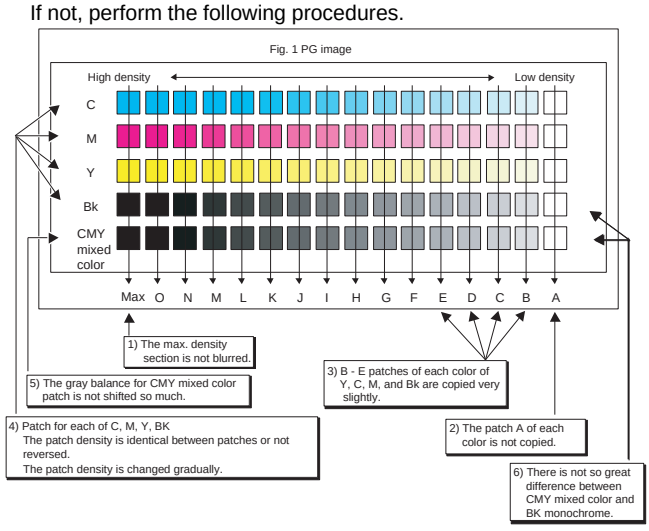
* The copy density level of each copy mode is set to the default (center value).
* The gamma of each copy mode is set to the default (500).
(Set the gamma set value of SIM 46-20 to the default (500).)
* The user program mode color balance must be set to the default.

1) Enter the SIM 46-21 mode.

2) Select PAPER SEL with the scroll key and select A3 (11 × 17) paper.
Enter the set value corresponding to the paper feed section with A3 (11 × 17) paper in it, and press the OK key.

3) Press the [EXECUTE] key.
The color balance adjustment pattern is printed.

4) Check that the printed pattern is in the following specification or in the desired color balance.
If not, perform the following procedures.



5) Select the color to be adjusted and select the adjustment point with the scroll key.

6) Enter the adjustment value with the 10-key and press the OK key.
The adjustment value can be selected in the range of 245 – 755.
When SIM 46-24 is used to perform the automatic color balance and the density adjustment, all the set values of this simulation are set to 500.
To increase the density, increase the adjustment value. To decrease the density, decease the adjustment value.

Repeat procedures 3) – 6) until the condition of procedure 4) is satisfied.

7) Set the auto color balance adjustment target. (SET M1) (SIM 63-7)

8) Execute SIM 44-21.
The initial setup of half tone image correction is performed.

9) Execute the half tone image correction. (Forcible execution) (SIM 44-26)

10) Use the test chart UKOG-0283FCZZ and check the copy color balance and the density in the Text/Photo mode (AR-C150) Text/Printed photo mode (AR-C250). (Refer to the section of the copy color balance and the density check.)

If the copy color balance and the density are not in the specified level, repeat procedures 8) through 10) until they are in the specified level. However, repetition is limited to three times. If repetition of the above procedures does not set the copy color balance and the density to the specified level, there may be some other reason. Investigate the reason and repair or fix the problem, then perform all the procedures of print quality adjustment from the beginning.

ADJ 4 Copy color balance adjustment (Copy mode)

This adjustment must be performed in the following cases:

- When a U2 trouble occurs.
- When the ICU main PWB is replaced.
- When the EEPROM of the ICU main PWB is replaced.

Used to adjust the gamma and the density in each copy mode individually. The adjustment in each copy mode is not required normally, but is performed when the user requests it.

1) Enter either of SIM 46-1 – 2, SIM 46-10, 46-19 or 46-25 (AR-C250 only) modes. (Select the simulation according to the copy mode to be adjusted.)

AR-C250

Copy mode				Model	Adjustment (Simulation)					
					Color balance adjustment in each copy mode		Overall color balance adjustment of all copy modes		Low density level	
					Main	Sub	Main	Sub	Main	Sub
Color	Copy document mode	Text Printed Photo mode	Manual	AR-C250	46	10	46	21/20	46	1
		Printed Photo mode	Manual	AR-C250						
		Text mode	Manual	AR-C250						
	Normal mode	Text mode	Manual	AR-C250		11				
			Auto							
		Text Printed Photo mode	Manual	AR-C250		12				
			Auto							
		Printed Photo mode	Manual	AR-C250						
		Photo mode	Manual	AR-C250		13				
		Text Photo mode	Manual	AR-C250						
			Auto							
		Map mode	Manual	AR-C250		14				
Monochrome	Copy document mode	Text Printed Photo mode	Manual	AR-C250		15				2
		Printed Photo mode	Manual	AR-C250						
		Text mode	Manual	AR-C250						
	Normal mode	Text mode	Manual	AR-C250		16				
			Auto							
		Text Printed Photo mode	Manual	AR-C250		17				
			Auto							
		Printed Photo mode	Manual	AR-C250						
		Photo mode	Manual	AR-C250		18				
		Text Photo mode	Manual	AR-C250						
			Auto							
		Map mode	Manual	AR-C250		19				

AR-C100/C150

Copy mode			Model	Adjustment (Simulation)					
				Color balance adjustment in each copy mode		Overall color balance adjustment of all copy modes		Low density level	
				Main	Sub	Main	Sub	Main	Sub
Color	Text Photo mode	Manual	AR-C100/C150	46	10	46	21/20	46	1
		Auto							
	Text mode	Manual	AR-C150		11				
		Auto							
	Printed Photo mode	Manual	AR-C150		12				
	Photo mode	Manual	AR-C100/C150		13				
	Map mode	Manual	AR-C150		14				
Monochrome	Text Photo mode	Manual	AR-C150		15				2
		Auto							
	Text mode	Manual	AR-C150		16				
		Auto							
	Printed Photo mode	Manual	AR-C150		17				
	Photo mode	Manual	AR-C100/C150		18				
	Map mode	Manual	AR-C100/C150		19				

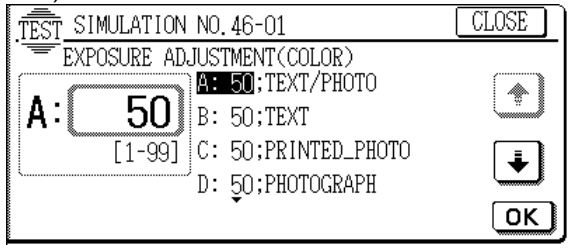
2) Select the color to be adjusted with the color select key, and select the adjustment point with the scroll key.
3) Enter the adjustment value with the 10-key, and press the OK key. The adjustment value can be selected in the range of 245 – 755. When the automatic color balance and the density are adjusted with SIM 46-24, all the set values of this simulation are set to 500. To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value.

Low-density area density adjustment (Invalid for the AR-C100)

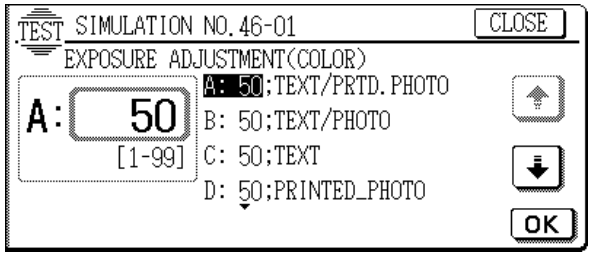
When the copy density in the low-density area is too high or there is considerable background copy in the white area, perform the density adjustment in the low-density area with SIM 46-1.

1) Enter the SIM 46-1 mode.

(AR-C150)



(AR-C250)

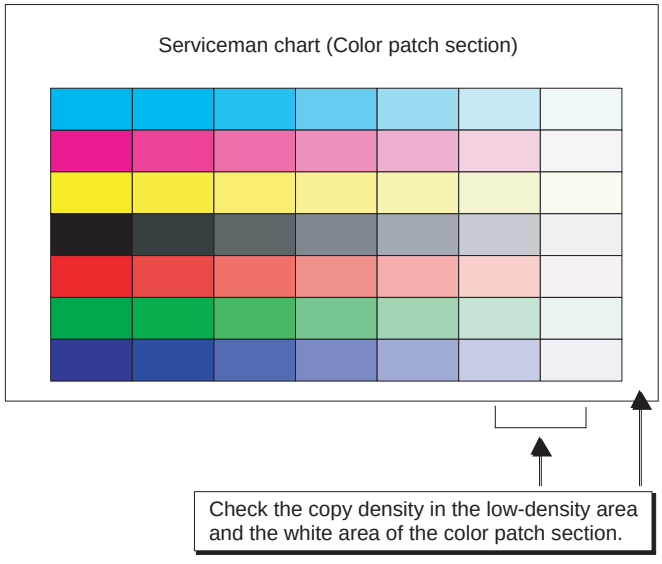


2) Select the copy mode to be adjusted with the scroll key.
3) Enter the adjustment value with the 10-key, and press the [OK] key.

To increase the density in the low-density area, set a greater adjustment value. To reduce the density, set a lower adjustment value. The adjustment in the low-density area can be adjusted individually for each copy mode.

The greater the set value is, the greater the density in the low-density area is, and vice versa. (The density in the high-density area is not changed.)

4) Cancel the simulation mode, and make a copy in the normal mode to check the copy density in the white area and the low-density area by using the test chart (UKOG-0283FCZZ).



Single color copy mode color balance and density adjustment (AR-C250 only) (Normally unnecessory to adjust.)

This adjustment is used to adjust color balance and the density according to the user's demand.

The adjustment is made by setting the max. density level of Y, M and C in each color.

This adjustment is required in the following cases when the default was changed:

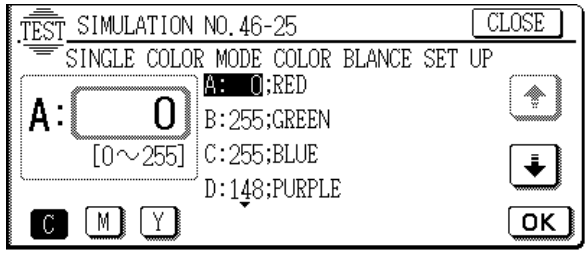
- When a consumable part (developer, photoconductor drum, transfer belt) is replaced.
- When the CCD unit is replaced.
- When the scanner (reading) section is cleaned.
- When U2 trouble occurs.
- When the ICU MAIN PWB is replaced.
- When the EEPROM of the ICU MAIN PWB is replaced.

a. Note for the adjustment

- This adjustment is not required in the normal state, but executed only when the user requests for.

b. Adjustment procedure

1) Enter the SIM 46-25 mode.



2) Select the color to be adjusted with the scroll key.
3) Select the color with the color key.
4) Enter the adjustment value of each toner color with the 10-key. (Default)

	C	M	Y
RED	0	255	255
GREEN	255	0	255
BLUE	255	255	0
PURPLE	148	238	105
ORANGE	38	140	255
BROWN	131	255	229

5) Cancel the simulation mode and make a copy in the single color copy mode to check.

ADJ 5 Black toner component image gamma adjustment (Black character and black line reproduction adjustment) (AR-C250 only) (Normally unnecessory to adjust.)

The gamma of black toner component images is changed to adjust the reproduction of the profile of the black character and line optionally. Especially the thickness of fine black character and line is changed.

Since the black toner component image quantity differs depending on the copy mode, be careful of the copy mode selection to check the adjustment result. Check in the Text/Printed Photo mode.

This adjustment is valid only in the following copy modes:

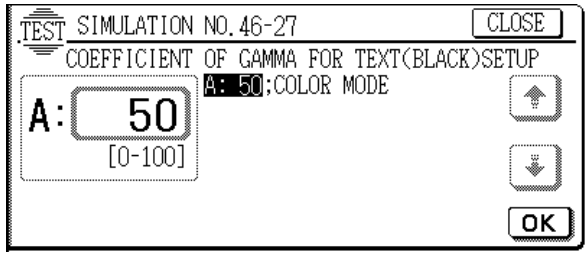
- Text copy mode
- Text Printed Photo copy mode
- Text Photo copy mode

The black toner component ratio is greatest in the Text copy mode, and smallest in the Text Photo copy mode.

This adjustment is required in the following cases when the default was changed:

- When U2 trouble occurs.
- When the ICU MAIN PWB is replaced.
- When the EEPROM of the ICU MAIN PWB is replaced.

1) Enter the SIM 46-27 mode.



2) Enter the adjustment value with the 10-key.
The greater the adjustment value is, the greater the density is, and vice versa.
Normally set to the default (50).

3) Press the [OK] key.
4) Cancel the simulation, and make a copy in the Text/Printed Photo mode to check the reproduction of fine black character and line.
   Use a document with black characters and lines on it for checking.

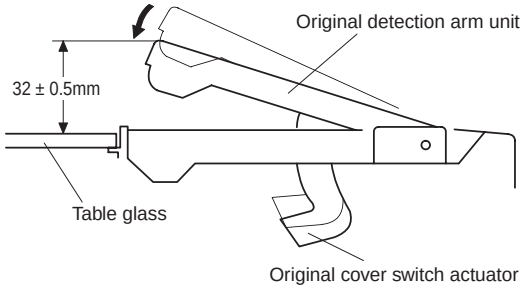
ADJ M18 Document size sensor adjustment

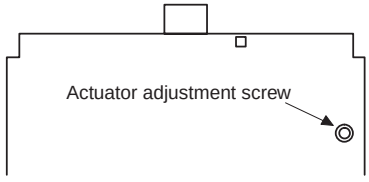
This adjustment must be performed in the following cases:

- When the original size sensor section is disassembled.
- When the original size sensor section is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

ADJ 1 Original size sensor detection point adjustment

1) Enter the SIM 41-1 mode.
   Gradually tilt the original detection arm unit. Loosen the original cover switch actuator adjustment screw so that the highlight display of OCSW is turned to the normal display when the height of the arm unit top from the table glass is 32 ± 0.5mm.
   Slide the actuator to adjust. (If the ON timing of the original cover switch is shifted, the original detection function may malfunction.)



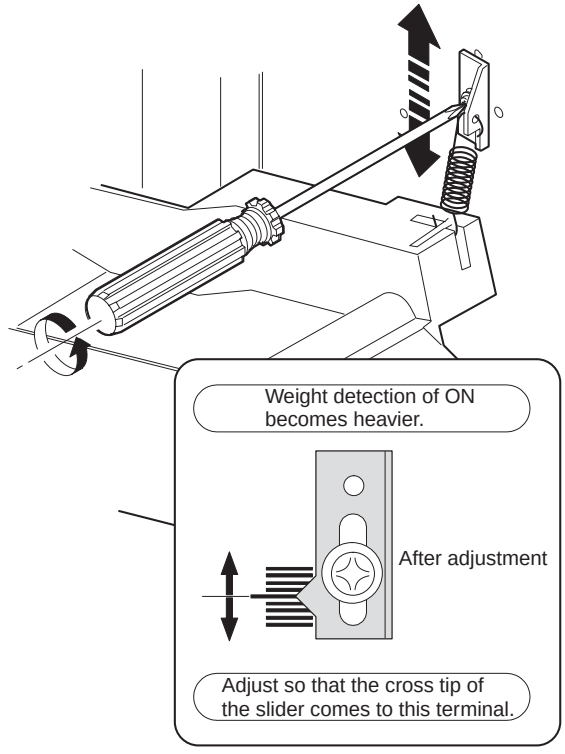


ADJ 2 Original size sensor sensitivity adjustment

1) Enter the SIM 41-2 mode.
2) Make the sensor adjustment without an original.
   With the original cover open and without an original on the original table, press the [EXECUTE] key.
3) Place A3 (11 × 17) document on the document table and press the [EXECUTE] key.

ADJ M19 Waste toner full detection level adjustment

Install the adjustment plate so that the projection of the plate comes to the center of the scribe line.

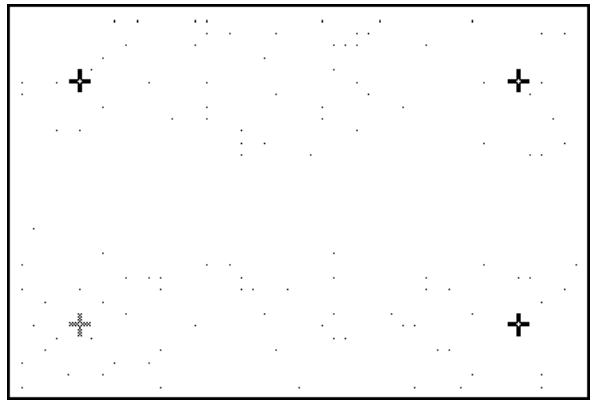


ADJ M20 Touch panel coordinates setting

This adjustment must be performed in the following cases:

- When the operation panel is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

1) Enter the SIM 65-1 mode.



2) Touch the four cross marks on the display.
   When the crosses are touched correctly, they turn gray. When all the four crosses are touched, the touch panel adjustment is completed and the display shows the simulation sub code entering screen.

If there is any abnormality, the first display is shown again.

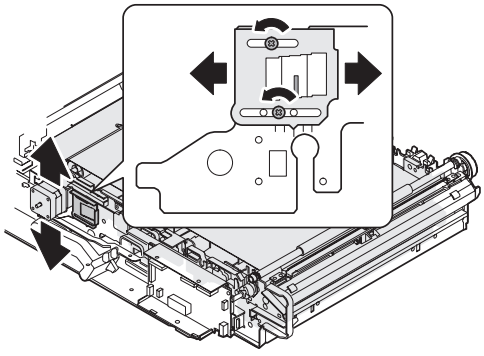
* When touching the crosses, never use a needle or a pin with a sharp point.

ADJ M21 Transfer belt level adjustment (Transfer belt traveling adjustment)

This adjustment must be performed in the following cases:

- When the transfer belt section is disassembled.
- When the transfer belt swings.
- When the density of yellow on the front frame side is too low.

1) Make a copy of gray half tone on the whole surface, and check for a color balance difference between the front and the rear sides. Check that there is no difference in the color balance of the front side and the rear side.
2) If there is a color balance difference between the front and the rear sides, change the height of the level adjustment angle to adjust.



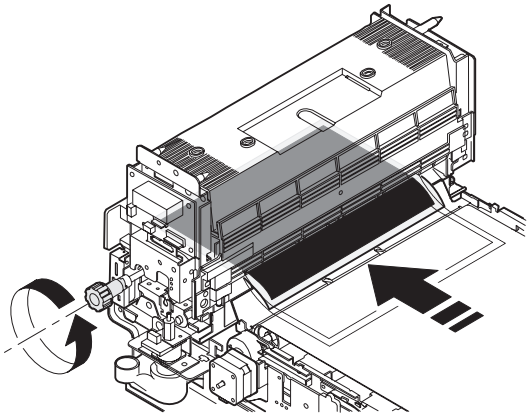
It is fixed at the center normally.

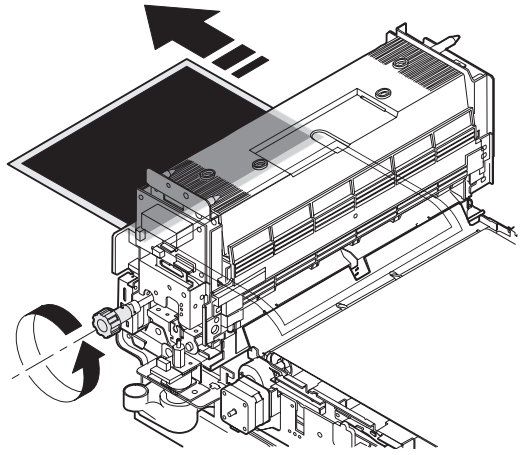
ADJ M22 Fusing pressure adjustment (Except for the AR-C250)

This adjustment must be performed in the following cases:

- When the fusing section is disassembled.
- When a fusing trouble occurs.
- When wrinkles are generated on paper in the fusing section.

1) Select A4 (8.5 × 11) paper.
2) With the document cover open, press the start key of monochrome copy.
3) A copy of black background is made.
4) Pull out the transfer section.
5) Insert paper into the pre-transfer paper guide, and turn the fusing roller knob.

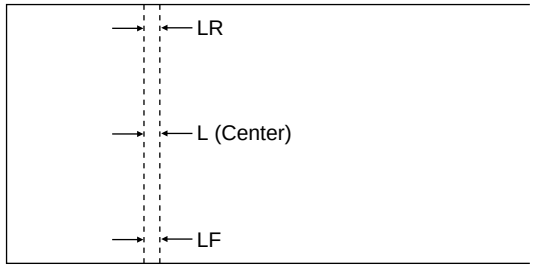




6) With the paper squeezed in the pre-transfer paper guide, wait for about 10sec.
7) Turn the fusing roller knob to remove the paper from the fusing section.
8) Measure the dimension (L) of the center section of the glittering line made by the fusing roller. Check that the dimension is in the specified range.
   Check that the pressure balance between the front and the rear frame sides is proper.

Value L

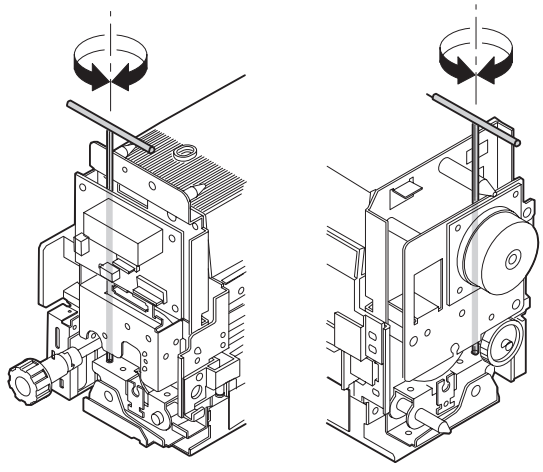
Model	Japan	Except Japan
AR-C100	5.5 – 6.0 mm	5.5 – 6.0 mm
AR-C150	5.5 – 6.0 mm	5.5 – 6.0 mm
AR-C250	6.0 – 7.0 mm	6.5 – 7.5 mm



LR = LF

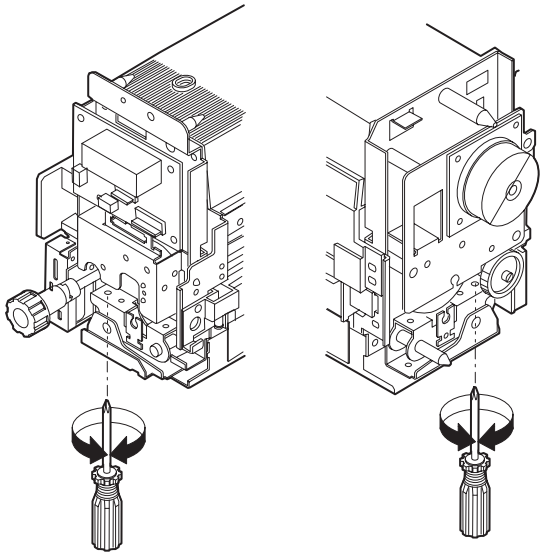
If the above condition is not satisfied, perform the following procedure.

9) Turn the pressure adjustment screw on the front and the rear frame sides of the fusing unit to adjust the fusing pressure.
   (AR-C100/C150)



Adjustment wrench (UKOG-0282FCZZ) (Required for the AR-C100/C150)

(AR-C250)



Repeat procedures 2) – 9) until the condition of procedure 8) is satisfied.

ADJ M23 Power voltage adjustment

This adjustment must be performed in the following cases:

- When a part in the DC power unit is replaced.

ADJ 1 3.4V power voltage adjustment

1) Put the multi-meter on the 3.4V line of the DC main PWB and GND.
2) Turn VR704 on the DC main PWB to adjust so that the voltage is 3.4V.

ADJ 2 5.0V power voltage adjustment

1) Put the multi-meter on the 5.0V line of the DC main PWB and GND.
2) Turn VR703 on the DC main PWB to adjust so that the voltage is 5.0V.

ADJ 3 24V power voltage adjustment

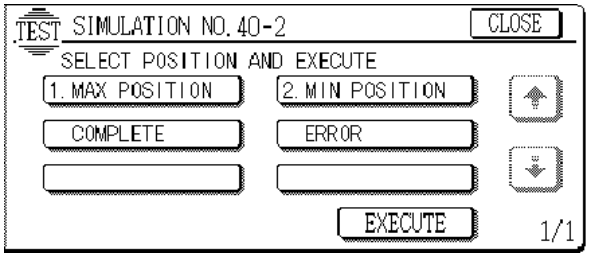
1) Put the multi-meter on the 24V line of the DC main PWB and GND.
2) Turn VR702 on the DC main PWB to adjust so that the voltage is 24.0V.

ADJ M24 Manual paper feed size detection level adjustment

This adjustment must be performed in the following cases:

- When the manual paper feed tray section is disassembled.
- When the manual paper feed tray is replaced.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

1) Execute SIM 40-2.



2) Extend the manual paper feed guide fully.
3) Press [MAX POSITION] on the LCD of the operation panel to highlight it.
4) Press [EXECUTE] on the LCD of the operation panel to highlight it.

   If normal, the highlight is shifted from [MAX POSITION] to [MIN POSITION].
5) Narrow the manual paper feed tray guide fully.
6) Press [EXECUTE] on the LCD of the operation panel to highlight it.

   Check that [COMPLETE] is highlighted.

ADJ M25 OHP sensor adjustment

This adjustment must be performed in the following cases:

- When the OHP sensor is replaced.
- When the OHP sensor is disassembled.
- When a U2 trouble occurs.
- When the PCU main PWB is replaced.
- When the EEPROM of the PCU main PWB is replaced.

1) Enter the SIM 40-5 mode.
2) Set A4 (11 × 8.5) paper to the manual paper feed tray.
3) Press the EXECUTE key.

Paper in the manual paper feed tray is fed and stopped at the OHP sensor section.

The sensor LED current level is automatically adjusted so that the specified (target) output of the OHP sensor is supplied.

After adjustment, paper is discharged and the result data is displayed.

When the adjustment is completed normally, ADJUSTMENT COMPLETE is displayed. When an error occurs, ADJUSTMENT ERROR is displayed.

[8] SIMULATION

(Diagnostics, setting, adjustment value input, data display)

1. Outline and purpose

There are the following simulation functions to check the machine operations, troubleshoot, find causes, make various settings, improves adjustment work speeds and serviceability.

1) Various adjustments
2) Specification and function setting
3) Trouble cancel
4) Operation check
5) Counters check, setting, clear
6) Machine operation conditions (operation history) data check, clear
7) Transmission of various data (adjustment, setting, operations, counter, etc.)

The operating procedures and displays slightly differ from the form of the machine operation panel.

The typical forms are as follows:

1) Code system: Values input and mode selection are made with the 10-key pad and various function keys.
2) Switch system: Simulation mode selection is made by combination of switch setting.
3) Values and mode selection is made with various function keys. As a special one, a jumper wire is used to connect the check points on the PWB to select the desired mode.

2. Code system simulation

A. Operating procedures and operations

* Entering the simulation mode

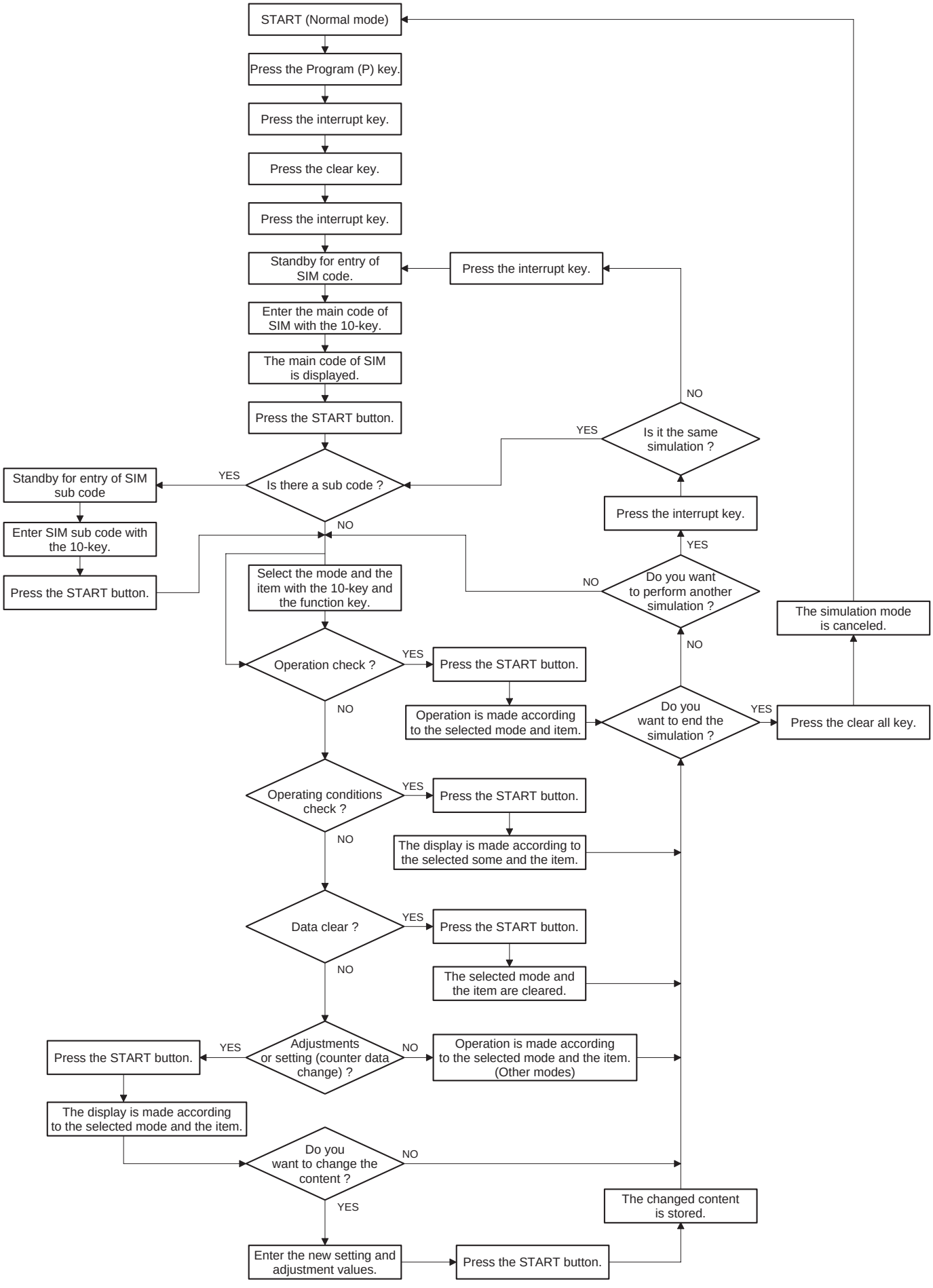
1) Program (P) key → Interrupt key → Clear key → Interrupt key
   (The machine enters the standby mode for the simulation main code.)
2) Enter the main code with 10-key pad. → Press START key.
3) Enter the sub code of with 10-keypad. → Press START key.
4) Select the mode and the item with the 1-key pad and the function key.
5) The machine enters the selected mode.

   To start the simulation, press the START key or the function key.

   To cancel the current simulation mode and to change the main code and the sub code, press the interrupt key.

1) Press the all clear key.

* The simulation mode is canceled and the machine returns to the normal operation mode.


START (Normal mode)
Press the Program (P) key.
Press the interrupt key.
Press the clear key.
Press the interrupt key.
Standby for entry of SIM code.
Press the interrupt key.
Enter the main code of SIM with the 10-key.
The main code of SIM is displayed.
Press the START button.
Is it the same simulation ?
YES
NO
Is there a sub code ?
YES
Standby for entry of SIM sub code
Enter SIM sub code with the 10-key.
Press the START button.
NO
Press the interrupt key.
YES
Select the mode and the item with the 10-key and the function key.
Do you want to perform another simulation ?
NO
The simulation mode is canceled.
NO
Operation check ?
YES
Press the START button.
Operation is made according to the selected mode and item.
Do you want to end the simulation ?
YES
Press the clear all key.
NO
Operating conditions check ?
YES
Press the START button.
The display is made according to the selected some and the item.
NO
Data clear ?
YES
Press the START button.
The selected mode and the item are cleared.
NO
Adjustments or setting (counter data change) ?
YES
Press the START button.
NO
Operation is made according to the selected mode and the item. (Other modes)
The display is made according to the selected mode and the item.
Do you want to change the content ?
NO
YES
The changed content is stored.
Enter the new setting and adjustment values.
Press the START button.

B. Simulation list

(1) Main/Sub

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
1	1	Used to check the operations of the scanner unit and its control circuit.	Operation test/check	Optical (Image scanning)		Operation	
	2	Used to check the sensors and detectors in the scanner section and the related circuits.	Operation test/check	Optical (Image scanning)		Operation	
2	1	Used to check the operations of the RADF unit and the control circuit. (The document feed operation is repeatedly performed.) (AR-C150/C250)	Operation test/check	ADF/RADF/UDH/SPF		Operation	
	2	Used to check the operations of the sensors and detectors in the RADF unit and the related circuits. (AR-C150/C250)	Operation test/check	ADF/RADF/UDH/SPF		Operation	
	3	Used to check the operations of the loads in the RADF unit and the related circuits. (AR-C150/C250)	Operation test/check	ADF/RADF/UDH/SPF		Operation	
3	2	Used to check the operations of the loads in the sorter/finisher and the related circuits. (AR-C150/C250)	Operation test/check	Sorter/Finisher		Operation	
	3	Used to check the operations of the loads in the sorter/finisher and the related circuits. (AR-C150/C250)	Operation test/check	Sorter/Finisher		Operation	
4	2	Used to check the operations of the sensors and detectors in the large capacity tray and the related circuit. (AR-C150/C250)	Operation test/check	Paper transport		Operation	
	3	Used to check the operations of the loads in the large capacity tray and the control circuit. (AR-C150/C250)	Operation test/check	Paper transport		Operation	
5	1	Used to check the operations of the operation panel display lamps and LCD and the control circuit.	Operation test/check	Operation (Display/ Operation key)		Operation	
	2	Used to check the operations of the heater lamp and the control circuit.	Operation test/check	Fixing (Fusing)		Operation	
	3	Used to check the operations of the scanner lamp and the control circuit.	Operation test/check	Optical (Image scanning)		Operation	
	4	Used to check the operations of the discharge lamp and the control circuit.	Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Others	Operation	
6	1	Used to check the operations of the loads (clutches and solenoids) in the paper transport system and the control circuits.	Operation test/check	Paper transport (Discharge/Switchback/ Transport)		Operation	
	2	Used to check the operation of each fan motor and its control circuit.	Operation test/check	Others		Operation	
7	1	Used to set the aging conditions.	Setting/ Operation test/check			Operation	
	6	Used to set the intermittent aging cycle.	Setting/ Operation test/check			Operation	
	8	Used to set Yes/No of warm-up time display.	Setting/ Operation test/check			Operation	
	9	Used to check the operation of each color image quality.	Operation test/check	Others		Picture quality	
8	1	Used to check and adjust the operation of each print mode developing bias voltage and the control circuit.	Adjustment/ Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)			
	2	Used to check and adjust the operation of each print mode main charger grid voltage and the control circuit.	Adjustment/ Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)			
	6	Used to check and adjust the operation of the transfer charger current and the control circuit. (Old)	Adjustment/ Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Copy		
9	1	Used to check the operation of the loads (clutches and solenoids) in the duplex section and the control circuit. (AR-C150/C250)	Operation test/check	Duplex		Operation	
	2	Used to check the operation of the sensors and detectors in the duplex section and the control circuit. (AR-C150/C250)	Operation test/check	Duplex		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
9	4	Used to check the operation of the duplex unit alignment plate and the control circuit. (AR-C150/C250)	Operation test/check	Duplex		Operation	
10	0	Used to check the operation of the toner motor and the control circuit. (Note) Never execute this simulation with toner in the toner hopper. Otherwise extra toner will enter the developing section, causing overtoner. Be sure to remove the toner from the toner hopper.	Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Developer/ Toner Hopper	Operation	
14	0	Used to cancel self diag troubles H3, H4, and H5. Inhibition of the color copy mode operation is canceled.	Clear/Cancel (Trouble etc.)			Trouble	Error
15	0	Used to cancel self diag trouble U6 (Large capacity tray). (AR-C150/C250)	Clear/Cancel (Trouble etc.)	Paper transport		Trouble	
16	0	Used to cancel self diag trouble U2.	Clear/Cancel (Trouble etc.)			Trouble	Error
17	0	Used to cancel self diag troubles PF (copy inhibition command from the host computer).	Clear/Cancel (Trouble etc.)	Communication unit (TEL/LIU/MODEM etc.)		Trouble	Error
21	1	Used to set the maintenance cycle.	Setting			Specifications	Counter
22	1	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)	Operation data output/Check (Display/Print)			Counter	
	2	Used to check the total misfeed count and the total trouble count. (If the misfeed count is considerably great, it may be judged as necessary to repair. By dividing this count by the total count, the misfeed rate can be obtained.)	Operation data output/Check (Display/Print)			Trouble	
	3	Used to check misfeed positions and the misfeed count of each position. (If the misfeed count is considerably great, it may be judged as necessaary to repair.) (Other sections than RADF section)	Operation data output/Check (Display/Print)			Trouble	Misfeed
	4	Used to check the total trouble (self diag) history.	Operation data output/Check (Display/Print)			Trouble	
	5	Used to check the ROM version of each unit (section).	Others			Software	
	6	Used to print the setting and adjustment data list.	Operation data output/Check (Display/Print)			Operation	
	7	Used to display the key operator code. (Used when the customer forgets the key operator code.)	User data output/Check (Display/Print)			Data	User data
	8	Used to check the number of uses of the staple, and the RADF. (AR-C150/C250)	Operation data output/Check (Display/Print)			Counter	
	9	Used to check the number of uses (print quantity) of each paper feed section.	Operation data output/Check (Display/Print)	Paper transport		Counter	
	10	Used to check the system configuration (option, internal hardware). (AR-C150/C250)	Operation data output/Check (Display/Print)			Specifications	Options
	12	Used to check the misfeed positions and the number (history) of misfeed at each position. (If the misfeed count is considerably great, it may be judged as necessaary to repair.) (AR-C150/C250)	Operation data output/Check (Display/Print)	ADF/RADF/UDH/SPF		Trouble	Misfeed
24	1	Used to clear the the misfeed counter, the misfeed history, the trouble counter, and the trouble history. (After completion of maintenance, the counters are cleared.)	Data clear	Memory		Counter	
	2	Used to clear the data of the number of uses (print quantity) of each paper feed section.	Data clear	Paper transport		Counter	Paper feed
	3	Used to clear the data of the number of uses of the stapler, the RADF, and the scanner.	Data clear			Counter	
	4	Used to reset the maintenance counter.	Data clear			Counter	Maintenance
	5	Used to reset the developer counter. (The developer counter of the installed DV unit is reset.)	Data clear	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Developer/ Toner Hopper	Counter	Developer

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
24	7	Used to clear the OPC drum (membrane decrease) correction counter. (Performed when the OPC drum is replaced.)	Data clear	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Photo conductor	Counter	Photo conductor
	8	Used to clear the waste toner counter in the transfer section.	Data clear	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Copy	Counter	
	9	Used to clear the self print and the list print counter. "(After completion of maintenance, this counter is cleared. (AR-C150/C250)	Data clear	Printer		Counter	Printer
25	1	Used to check the operation of the main drive (excluding the scanner section) and the toner density sensor. (The toner density sensor output can be monitored.)	Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Developer/ Toner Hopper	Operation	
	2	Used to make the initial setup (automatic adjustment) of toner density when replacing developer.	Setting	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Developer/ Toner Hopper		
26	1	Used to make option setup. (When installing an option, this simulation is used to setup for that option (software). (AR-C150/C250)	Setting			Specifications	Options
	2	1) Used to set the paper size of the large capacity tray. (When the paper size is changed, the software setup must be changed accordingly with this simulation.) 2) Used to detect 8.5 × 13 (INCH Series) paper or documents and to set the display mode. (All paper feed modes) 3) Used to set the display form of the paper kind in the manual paper feed mode.	Setting	Paper transport		Specifications	
	3	Used to set the auditor specification mode. Setting must be made according to the use conditions of the auditor.	Setting	Auditor		Specifications	
	5	Used to set the count mode of the total counter, the developer counter, and the maintenance counter.	Setting			Specifications	Counter
	6	1)Used to set the specifications (paper, fixed copy magnification ratio, machine operations in case of an image (process) correction error) according to the destination. (AR-C150/C250) 2) Used to set the user logo. (AR-C100 only)	Setting			Specifications	Destination
	18	Used to set YES/NO of toner save operation. (This simulation is valid only for Japan and UK versions. It depends on Sim 26-6 (Destination) setting. For the other destinations, the same setting can be made by the user program P22. (Effective only in the monochrome copy mode)	Setting			Specifications	Operation mode (Common)
	22	Used to set the specification (language) for the destination. (AR-C150/C250)	Setting			Specifications	Language
	28	Used to set the AC power voltage. (For control of the fusing section heater lamp)	Setting	Power supply (DC/AC/High)		Operation	
	30	Used to set the CE mark complying operation mode. (Conforms to the soft start when driving the fusing heater lamp.)	Setting	Fixing (Fusing)		Specifications	Operation mode (Common)
	32	Used to set the fan rotating speed. (low speed)	Setting			Operation	
	35	Used to set whether the trouble history display by SIM 22-4 is displayed as one trouble or as the accumulated number of continuous troubles when two or more troubles of same kind occur continuously.	Setting			Specifications	
	45	Used to set the copy charge. (AR-C100 only)	Setting			Specifications	Others
	52	Used to set YES/NO of count up of non-copy paper (cover or insertion paper).	Setting			Specification	Operation mode
	53	Used by the user to set Enable/Disable auto color calibration (auto adjustment of color balance and density)	setting			Specifications	Operation mode
	54	Used to adjust the brightness of LCD display.	Adjustment	LCD display		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
26	55	Used to set the fusing capability (image process) in the heavy paper mode. (AR-C150) Used to select the gamma characteristics in the color copy mode. (AR-C250)	Setting			Operation	
27	1	Used to set the specifications for operations in case of communication trouble between the host computer and MODEM (machine side). (When communication trouble occurs between the host computer MODEM and the machine, the self diag display (U7-00) is printed and setting for inhibition of print or not is made.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Specifications	Operation mode (Common)
	2	Used to set or change the host computer/MODEM number. (This setting is required when a communication is made between the copier and the computer through MODEM.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Data	User data
	3	Used to set and change the ID numbers of the copier, the host computer/MODEM. (This setting is required when a communication is made between the copier and the computer through MODEM.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Data	Communication
	4	Used to enter the service start time and service end time for management of servicing. (The data can be checked with the host computer.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Data	Communication
	5	Used to enter the machine TAG No. (This function allows to check the TAG No. of the machine with the host computer.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Data	User data
	6	Used to set ON/OFF of service call sending to the service center by use of RIC when trouble occurred in the machine. (The service call is not sent automatically, but sent manually.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Specifications	Others
30	1	Used to check the operation of sensors and detectors in the paper feed, paper transport, paper exit sections and the related circuits.	Operation test/check			Operation	
	2	Used to check the operation of sensors and detectors in the paper feed section and the related circuits. (The operation of the paper feed sensors and detectors can be monitored with the LCD display.)	Operation test/check	Paper transport		Operation	
33	1	Used to check the operation of the card reader and the sensors and the related circuits. (The card reader sensor operation can be monitored with the LCD display.) (AR-C150/C250)	Operation test/check	Others		Operation	
40	1	Used to check the operation of the manual feed tray paper size detector and the related circuit. (The operation of the manual feed tray paper size detector can be monitored with the LCD display.) (AR-C150/C250)	Operation test/check	Paper transport		Operation	
	2	Used to adjust the manual feed tray paper width detector detection level. (AR-C150/C250)	Adjustment	Paper transport		Operation	
	4	Used to check the OHP sensor and its control circuit. (AR-C150/C250)	Operation test/check	Paper transport		Operation	
	5	Used to adjust the detection level of the OHP sensor. (AR-C150/C250)	Adjustment	Paper feed		Operation	
	6	Used to set the OHP sensor adjustment parameter. (AR-C150/C250)	setting	Paper feed		Operation	
41	1	Used to check the operation of the document size sensor and the related circuit. (The operation of the document size sensor can be monitored with the LCD display.)	Operation test/check/ Operation data Output/Check (Display/Print)	Others		Operation	
	2	Used to adjust the document size sensor detection level.	Adjustment	Others		Operation	
	3	Used to check the operation of the document size sensor and the related circuit. (The document size sensor output level can be monitored with the LCD display.)	Operation test/check	Others		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
43	1	Used to set the fusing temperature in each operation mode.	Setting	Fixing (Fusing)		Operation	
	7	Used to adjust the fusing oil supply amount. (Adjustment of oil motor ON time and oil motor ON interval)	Adjustment	Fixing (Fusing)		Operation	
44	1	Used to set enable/disable of correction operations in the image forming (process) section.	Setting	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Operation	
	2	Used to check the operation of the temperature sensor and the humidity sensor for correction of the image process section. (The sensor detection level can be monitored.)	Operation test/check			Operation	
	4	Used to set the target image (reference) density level in correction (process correction) operations in the image forming section.	Setting	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Picture quality	Density
	5	Used to set the correction start developing bias voltage in correction (process correction) operations in the image forming section.	Setting	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Developer/ Toner Hopper	Operation	
	6	Used to forcibly execute the image forming section correction (process correction).	Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Operation	
	9	Used to check the data on the image forming section correction (process correction) (corrected main charger grid voltage, the developing bias voltage, the laser power, etc, in each print mode). (This simulation allows to check if the correction operation is performed normally.)	Operation data output/Check (Display/Print)	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Data	Operation data (Machine condition)
	12	Used to check the toner image patch density data in the image forming section correction (process correction). This simulation allows to check if the correction operation is performed normally.)	Operation data output/Check (Display/Print)	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Data	Operation data (Machine condition)
	13	Used to adjust the image density sensor (for color) sensitivity (gain).	Adjustment	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Copy		
	14	Used to monitor the output level of the fusing temperature sensor, the machine temperature sensor, and the humidity sensor.	Operation data output/Check (Display/Print)	Others			
	16	Used to check the toner concentration correction result. (This simulation allows to check if correction is executed properly or not.)	Operation data output/Check (Display/Print)	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Developer/ Toner Hopper	Data	Operation data (Machine condition)
	20	Used to adjust the phase of OPC drum deflection. (Used to adjust deflection phases of four OPC drums.) (Old)	Adjustment	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Photo conductor	Operation	
	21	Used to store color balance adjustment data. (Half tone image correction initial setting) (After execution of color balance adjustment with SIM 46-21, this simulation must be executed.)	Setting			Picture quality	
	22	Used to check each color toner patch image density UITU in half tone image forming section correction (process correction). (This simulation allows to check if correction operation is performed normally.)	Operation data output/Check (Display/Print)	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Data	Operation data (Machine condition)
	23	Used to adjust the image density sensor position (main scan direction). (The position is adjusted when toner patch is formed.)	Adjustment	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Copy		
	24	Used to check the half tone correction result. (This simulation allows to check if correction is executed properly or not.)	Operation data output/Check (Display/Print)	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Data	Operation data (Machine condition)
	25	Used to check the half tone correction result. (This simulation allows to check if correction is executed properly or not.)	Operation data output/Check (Display/Print)	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Data	Operation data (Machine condition)

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
44	26	Used to execute half tone correction compulsorily.	Adjustment	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Picture quality	
	27	Used to set the half tone correction data to the default level.	Data clear	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Data	
	30	Used to check and adjust the operation of the transfer charger current and the control circuit. (New)	Adjustment/Operation test/check	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Copy		
	31	Used to adjust the phase of OPC drum deflection. (Used to adjust deflection phases of four OPC drums.) (New)	Adjustment	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Photo conductor	Operation	
46	1	Used to adjust the copy density of each mode in the low density area in the color copy mode. The copy densities all colors in the low density area are changed. (AR-C150/C250)	Adjustment			Picture quality	Density
	2	Used to adjust the copy density in the low density area in the monochrome copy mode. The copy density in the low density area is changed. (AR-C150/C250)	Adjustment			Picture quality	Density
	6	1) Used to set CCD black level offset level. 2) Used to set CCD white level gain.	Adjustment	Optical (Image scanning)		Picture quality	
	10	Used to set the copy color balance (gamma for each color). (Color/Text Photo mode). (AR-C100/C150) Used to adjust the copy color balance (gamma for each color). (Color/Copy document mode) (AR-C250)	Adjustment	ICU		Picture quality	Color balance
	11	Used to set the copy color balance (gamma for each color). (Color/Text mode) (AR-C150/C250)	Adjustment	ICU		Picture quality	Color balance
	12	Used to set the copy color balance (gamma for each color). (Color/Printed Photo mode) (AR-C150) Used to adjust the copy color balance (gamma for each color). (Color/Text Printed Photo/Printed Photo mode) (AR-C250)	Adjustment	ICU		Picture quality	Color balance
	13	Used to set the copy color balance (gamma for each color). (Color/Photo mode) (AR-C100/C150) Used to adjust the copy color balance (gamma for each color). (Color/Text Photo/Photograph mode) (AR-C250)	Adjustment	ICU		Picture quality	Color balance
	14	Used to set the copy color balance (gamma for each color). (Color/Map mode) (AR-C150/C250)	Adjustment	ICU		Picture quality	Color balance
	15	Used to adjust the copy density (gamma). (Monochrome/Text Photo mode) (AR-C100/C150) Used to adjust the copy density (gamma). (Monochrome/Copy document mode) (AR-C250)	Adjustment	ICU		Picture quality	Density
	16	Used to adjust the copy density (gamma). (Monochrome/Test mode) (AR-C150/C250)	Adjustment	ICU		Picture quality	Density
	17	Used to adjust the copy density (gamma). (Monochrome/Printed Photo mode) (AR-C150) Used to adjust the copy density (gamma). (Monochrome/Text Printed Photo/Printed Photo mode) (AR-C250)	Adjustment	ICU		Picture quality	Density
	18	Used to adjust the copy density (gamma). (Monochrome/Photo mode) (AR-C100/C150) Used to adjust the copy density (gamma). (Monochrome/Text Photo/Photo mode) (AR-C250)	Adjustment	ICU		Picture quality	Density
	19	Used to adjust the copy density (gamma). (Monochrome/Map mode)(AR-C150/C250)	Adjustment	ICU		Picture quality	Density

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
46	20	Used to adjust the copy density (gamma). (Color/ All modes) (The copy color balances (gamma) in all copy modes are changed.) The operations are the same as SIM 46-21, but printing is not performed.	Adjustment	ICU		Picture quality	Color balance
	21	Used to adjust the copy color balance (gamma). (Color/All modes) (The color balance (gamma) in all the copy modes is changed. Printing is performed while adjustment.	Adjustment	ICU		Picture quality	Color balance
	22	Used to make the print (printer engine) color balance (gamma) adjustment. (Auto adjustment) (AR-C100)	Adjustment	ICU		Picture quality	Color balance
	23	Used to the half tone high density correction operation. (AR-C150/C250)	Setting	Image process (Photoconductor/ Developing/Transfer/ Cleaning)		Operation	
	24	Used to adjust the print (printer engine) color balance (gamma). (Auto adjustment) (For AR-C150/C250)	Adjustment			Picture quality	Color balance
	25	Used to adjust the copy color balance. (Single color copy mode) (AR-C250)	Adjustment	ICU		Picture quality	
	26	Used to set the copy color balance adjustment value to the default. (Single color copy mode) (AR-C250)	Setting	ICU		Picture quality	
	27	Used to adjust the black toner component image gamma. (Adjustment of the reproduction capability of black characters and lines) (AR-C250)	Adjustment	ICU		Picture quality	
48	1	Used to adjust the copy magnification ratio (main scan, sub scan direction).	Adjustment			Picture quality	Image size/ Magnification
	6	Used to adjust each motor rotating speed.	Adjustment			Operation	
49	1	Used to revise the version of the body firmware. (AR-C150/C250)	Other	ICU		Software	
	2	Used to set the data communication speed in version up of the body firmware.	Setting	ICU		Operation	
50	1	Used to adjust the copy image position and the void area (image loss) on print paper in the copy mode. (The similar adjustment can be made also by SIM 50-2 (Simple method).)	Adjustment			Picture quality	Image position
	2	Used to adjust the copy image position and the void area (image loss) on print paper in the copy mode.(Simple method) (The same content of SIM 50-1. However this simulation is easier to perform.)	Adjustment			Picture quality	Image position
	10	Used to adjust the print image center position. (Adjusted separately for each paper feed section.)	Adjustment	ICU		Picture quality	Image position
	12	Used to adjust the print image center position. (Adjusted separately for each document mode.)	Adjustment	ICU		Picture quality	Image position
	20	Used to adjust color registration in the main scan direction.	Adjustment			Picture quality	Image position
	21	Used to adjust the sub scan direction color registration.	Adjustment			Picture quality	Image position
	22	Used to adjust the color registration (in the main/sub scanning direction). The color registration adjustment (automatic adjustment) can be performed both in the main and the sub scanning directions at the same time. (AR-C250) (New version of AR-C150)	Adjustment			Picture quality	
51	1	Used to adjust the transfer operation and ON timing of the transfer section separation pawl.	Adjustment	Image process (Photoconductor/ Developing/Transfer/ Cleaning)	Copy	Operation	
	2	Used to adjust the contact pressure of paper on the resist roller of each section (each paper feed and duplex feed of the copier). (This adjustment is required when the print image position variations are considerably great or when paper jams occur frequently.)	Adjustment	Paper transport (Discharge/Switchback/ Transport)		Operation	

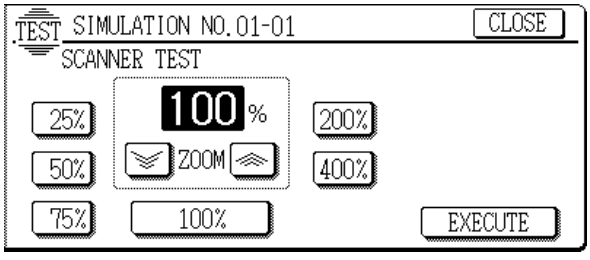
Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
52	1	Used to adjust the duplex print mode stacking capacity (Used to adjust the stop position of the duplex unit paper tray width alignment plate. The home position of the width alignment plate is changed by software.) (AR-C150/C250)	Adjustment	Duplex		Operation	
53	1	Used to adjust the document stop position in each operation mode of ADF/RADF. (AR-C150/C250)	Adjustment	ADF/RADF/UDH/SPF		Operation	
53	2	Used to adjust the optical sensor sensitivity in ADF/RADF. (AR-C150/C250)	Adjustment	ADF/RADF/UDH/SPF		Operation	
60	1	Used to check the operation (read/write) of the ICU main PWB (image DRAM).	Operation test/check	ICU		Operation	
61	1	Used to check the operation of the scanner (exposure) unit.	Operation test/check	Laser (Exposure)		Operation	
	4	Used to adjust skew of the scanner (writing) unit laser beam.	Adjustment	Laser (Exposure)		Operation	
63	1	Used to check the result of shading correction. (The shading correction data is displayed.)	Operation data output/Check (Display/Print)	Laser (Exposure)		Operation	
	3	Used to adjust CCD color balance (gamma).	Adjustment	Optical (Image scanning)		Picture quality	Color balance
	5	Used to set CCD color balance (gamma) default.	Setting	Optical (Image scanning)		Picture quality	Color balance
	6	Used to check the color balance (gamma) adjustment . (Check patch)	Adjustment/ Operation data output/Check (Display/Print)	ICU		Picture quality	Color balance
	7	Used to set the target color balance (gamma) for auto color balance adjustment. The standard color balance (gamma) or an optional color balance (gamma) is set as the service target. (AR-C150/C250)	setting			Picture quality	Color balance
	8	Used to set the target color balance (gamma) for auto color balance adjustment (SIM 46-24). The service target is set to the default (standard) color balance (gamma).	setting			Picture quality	Color balance
	9	Used to adjust the CCD color balance (gamma). (Copy document mode) (AR-C250)	Setting	Optical (Image scanning)		Picture quality	
	10	Used to set the default of the CCD color balance (gamma). (Copy document mode) (AR-C250)	Setting	Optical (Image scanning)		Picture quality	
64	1	Used to check the operation (self print) of the printer section. (The print pattern, the paper feed mode, the print mode, the print quantity, and the density can be set optionally.)	Operation test/check	Printer		Operation	
	2	Used to print the color patch image (adjustment pattern). The above color patch image (adjustment pattern) is outputted according to the currently adjusted color balance (gamma). Use SIM 63-7 to read the color patch image (adjustment pattern), which can be used as the service target of the automatic color balance (gamma) adjustment.	Adjustment/setup/ operation data output, adjustment (display, print)			Picture quality	Color balance
65	1	Used to adjust the touch panel (LCD display section) detection position.	Adjustment	Operation (Display/ Operation key)			
	2	Used to check the result of the touch panel (LCD display) detection position adjustment. (The coordinates are displayed.)	Operation data output/Check (Display/Print)	Operation (Display/ Operation key)			

C. Details of simulation

1

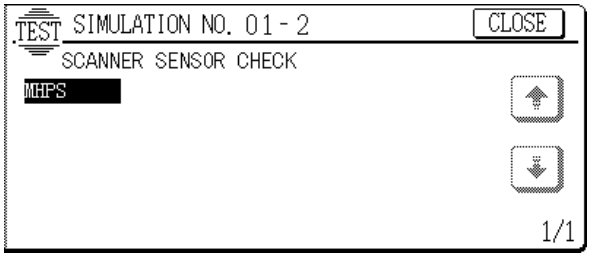
1 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the scanner unit and its control circuit.
Section	Optical (Image scanning)
Item	Operation
Operation/ Procedure	1. Select the copy (scanning) magnification ratio with the zoom key. The magnification ratio can be increased or decreased with the [ZOOM] key by the increment of 1%. The selected magnification ratio is displayed on the magnification ratio display. 2. Press the [EXECUTE] key. Scanning is performed at the magnification ratio set in procedure 1 is executed. During scanning, the [EXECUTE] key is highlighted. If the [EXECUTE] key is pressed under this state, the operation is interrupted. After completion of scanning, the [EXECUTE] key returns to the normal display. To resume scanning, start with procedure 2. To change the magnification ratio, start with procedure 1. Scanning is performed at the max. scanning length (432 mm). If, however, the magnification ratio is set to greater than 100% in procedure 1, the scanning length is changed accordingly.



1 - 2

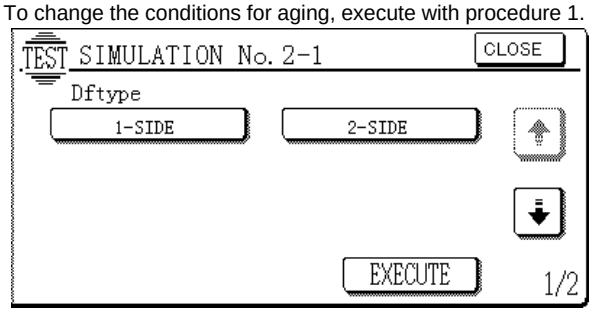
Purpose	Operation test/check
Function (Purpose)	Used to check the sensors and detectors in the scanner section and the related circuits.
Section	Optical (Image scanning)
Item	Operation
Operation/ Procedure	The operations of sensors and detectors in the scanner section are displayed. The active sensors and detectors are highlighted.



2

2 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the RADF unit and the control circuit. (The document feed operation is repeatedly performed.) (AR-C150/C250)
Section	ADF/RADF/UDH/SPF
Item	Operation
Operation/ Procedure	1. Select the aging mode with the key. When selection is made, the selected item is highlighted. [1:SIDE]: Single copy aging mode [2:SIDE]: Duplex copy aging mode 2. Press the [EXECUTE] key. Aging of the document feeder is executed under the conditions specified with procedures 1. During aging, the [EXECUTE] key is highlighted. If the [EXECUTE] key is pressed while it is highlighted, the operation is interrupted. To resume aging, execute with procedure 1. To change the conditions for aging, execute with procedure 1.



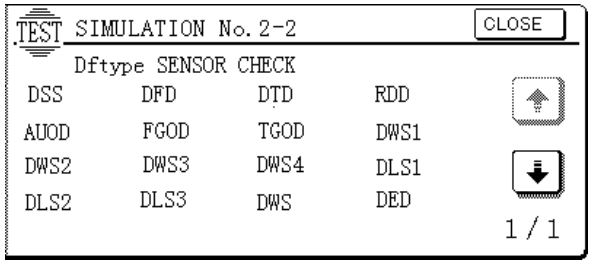
2 - 2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the RADF unit and the related circuits. (AR-C150/C250)
Section	ADF/RADF/UDH/SPF
Item	Operation
Operation/ Procedure	The operations of the sensors and detectors in the RADF are displayed. The active sensors and detectors are highlighted.

[When the RADF is installed]

DSS	Empty sensor	Normal display:	Document empty
		Highlighted:	Document exist
DFD	Resist sensor	Normal display:	Document empty
		Highlighted:	Document exist
DTD	Timing sensor	Normal display:	Document empty
		Highlighted:	Document exist
RDD	Repulsion sensor	Normal display:	Document empty
		Highlighted:	Document exist
AUOD	DF open/close sensor	Normal display:	Close
		Highlighted:	Open
TGOD	Reverse section cover sensor	Normal display:	Close
		Highlighted:	Open
DWS1	Tray widthsensor (182mm)	Normal display:	OFF
		Highlighted:	ON
DWS2	Tray width sensor (210mm/215.9mm)	Normal display:	OFF
		Highlighted:	ON
DWS3	Tray width sensor (257mm)	Normal display:	OFF
		Highlighted:	ON

DWS4	Tray width sensor (279.4mm)	Normal display: Highlighted:	Document empty Document exist
DSL1	Tray length sensor (240mm)	Normal display: Highlighted:	Document empty Document exist
DSL2	Tray length sensor (300mm)	Normal display: Highlighted:	Document empty Document exist
DSL3	Tray length sensor (only for 13")	Normal display: Highlighted:	Document empty Document exist
DWS	Document width sensor	Normal display: Highlighted:	Document empty Document exist
DED	3rd document sensor	Normal display: Highlighted:	Document empty Document exist

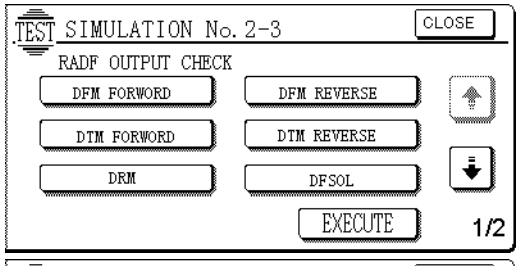


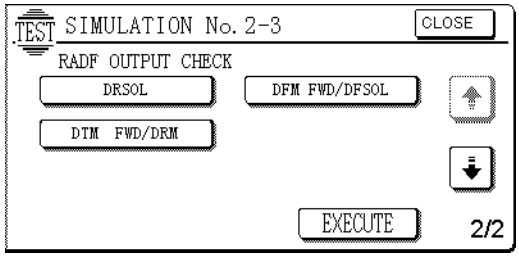
2 - 3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the RADF unit and the related circuits. (AR-C150/C250)
Section	ADF/RADF/UDH/SPF
Item	Operation
Operation/ Procedure	1. The names of the loads which can be operated are displayed. Select the load to be checked with the key, and the selected load is highlighted. 2. Press the [EXECUTE] key. The load selected in procedure 1 starts the operation. During the operation of the load, the [EXECUTE] key is highlighted. If the [EXECUTE] key is pressed while it is highlighted, the operation is stopped.

[When RADF is installed]

DFM FORWORD	Paper feed motor forward rotation
DFM REVERSE	Paper feed motor reverse rotation
DTM FORWORD	Transport motor forward rotation
DTM REVERSE	Transport motor reverse rotation
DRM	Paper expulsion motor
DFSOL	Paper feed solenoid
DRSOL	Paper reverse solendoi
DFM FORWORD/DFSOL	Paper feed ,motor forward rotation/Paper feed solenoid





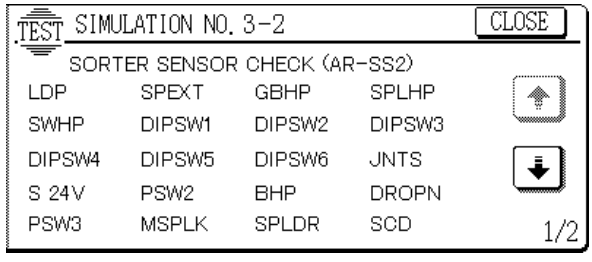
3

3 - 2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the sorter/finisher and the related circuits. (AR-C150/C250)
Section	Sorter/Finisher
Item	Operation
Operation/ Procedure	The display differs depending on the unit (sorter/finisher) which is installed. The operating status of the sensors and detectors of the sorter/finisher is displayed. The active sensor/detector display is highlighted.

(AR-SS2)

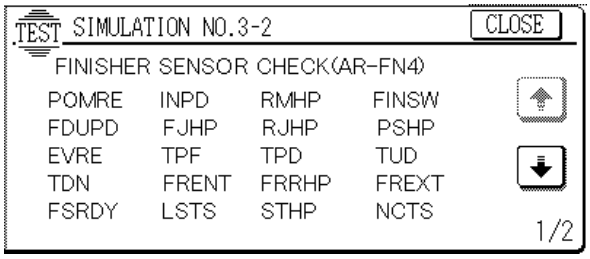
LDP	Lead cam sensor
SPEXT	Paper exit sensor
GBHP	Alignment rod home position sensor
SPLHP	Stapler home position sensor
SWHP	Stapler oscillation home position
DIPSW1	DIP switch 1
DIPSW2	DIP switch 2
DIPSW3	DIP switch 3
DIPSW4	DIP switch 4
DIPSW5	DIP switch 5
DIPSW6	DIP switch 6
JNTS	Joint switch
S_24V	24V detection sensor
PSW2	Push switch 2
BHP	Bin unit home position sensor
DROPN	Staple door switch
PSW3	Push switch 3
MSPLK	Manual staple key
SPLDR	Staple door sensor
SCD	Staple cartridge sensor
SFBD	Stapler head positioning sensor
STMD	Staple head positioning sensor
SED	Staple sensor
BPED	Bin paper sensor



(AR-FN4)

POMRE	Paper exit motor clock detection
INPD	Paper entry sensor
RMHP	Return roller home position sensor
FINSW	Finisher joint detection switch sensor
FDUPD	Intermediate process tray paper sensor
FJHP	Front alignment plate home position sensor
RJHP	Rear alignment plate home position sensor
PSHP	Paper push lever home position sensor
EVRE	Stack tray lift motor clock sensor
TPF	Stack tray paper full sensor
TPD	Stack tray paper sensor
TUD	Stack tray lower limit sensor
TDN	Stack tray upper limit sensor
FRENT	Reverse entry sensor
FRRHP	Reverse roller home position sensor
FREXT	Reverse paper exit sensor

FSRDY	Staple self priming sensor
LSTS	Staple stapler sensor
STHP	Staple home sensor
NCTS	Staple cartridge sensor



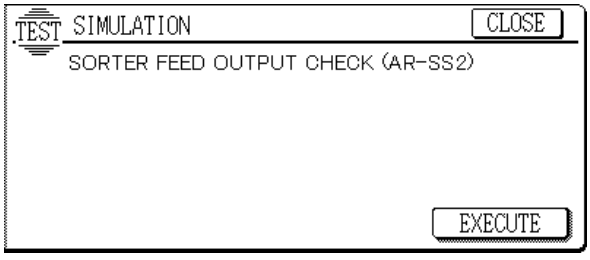
3 - 3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the sorter/finisher and the related circuits. (AR-C150/C250)
Section	Sorter/Finisher
Item	Operation
Operation/ Procedure	The display differs depending on the unit (sorter/finisher) which is installed.

1. The names of the loads which can be checked are displayed. Select a load to be checked with the key. (In case of the AR-FN4)
2. Press the [EXECUTE] key.
   (In the case of the AR-SS2) Sorting is performed.
   (In the case of the AR-FN4) The selected load operates.

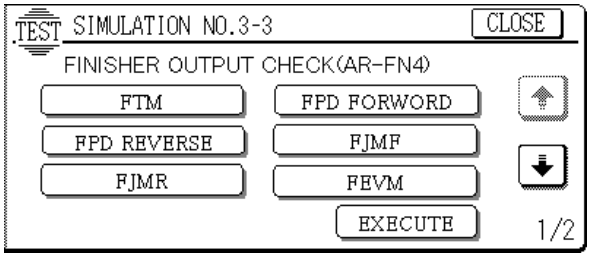
During the load operation, the [EXECUTE] key and the load key are highlighted. Under this state, pressing the [EXECUTE] key interrupts the load operation.

(AR-SS2)



(AR-FN4)

Load port name	Name
FTM	Paper exit motor
FPD FORWARD	Bundle process motor (Forward rotation)
FPD REVERSE	Bundle process motor (Reverse rotation)
FJMF	Front alignment motor
FJMR	Rear alignment motor
FEVM	Tray lift motor
FRTM	Reverse transport motor
FRM	Reverse motor
FRFS	Reverse flapper solenoid

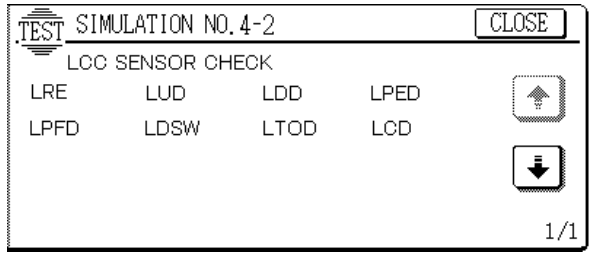


4

4 - 2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the large capacity tray and the related circuit. (AR-C150/C250)
Section	Paper transport
Item	Operation
Operation/ Procedure	The operating conditions of the sensors and detectors in the paper feed section are displayed. The active sensors and detectors are highlighted.

LRE	Remaining quantity sensor
LUD	Upper limit sensor
LDD	Lower limit sensor
LPED	Paper empty sensor
LPFD	Paper exit sensor
LDSW	Door open sensor
LTOD	Machine connection sensor
LCD	Cassette detection line



4 - 3

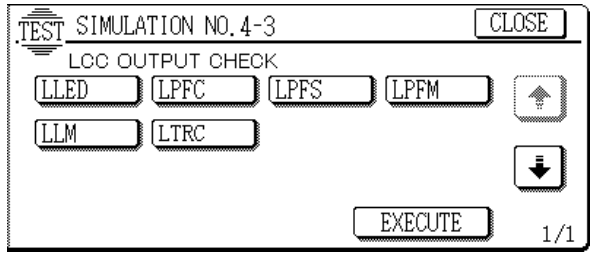
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the large capacity tray and the control circuit. (AR-C150/C250)
Section	Paper transport
Item	Operation
Operation/ Procedure	1. The names of the loads which can be checked are displayed. Select a load to be checked with the key, and the selected load is highlighted.

2. Press the [EXECUTE] key.
   The load selected in procedure 1 starts the operation.

During the operation of the load, the [EXECUTE] key is highlighted. If the [EXECUTE] key is pressed while it is highlighted, the operation is stopped.

LLED	Door open LED
LPFC	Paper feed clutch
LPFS	Paper feed solenoid
LPFM	Paper transport motor
LLM	Lift motor
LTRC	Transport roller clutch

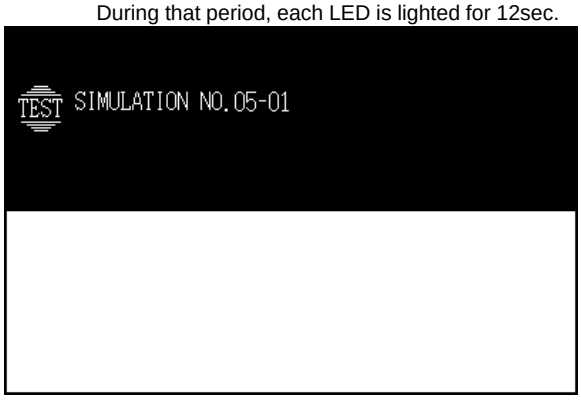
When the lift motor is selected, it operates up and down continuously.



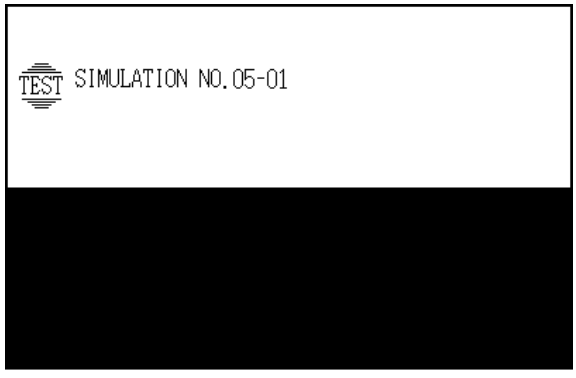
5

5 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the operation panel display lamps and LCD and the control circuit.
Section	Operation (Display/Operation key)
Item	Operation
Operation/ Procedure	The LCD shows the following message. (The contrast changes in the sequence of Current level → MAX → MIN → Current level → MAX → MIN in every 2sec.) During that period, each LED is lighted for 12sec.



↓ 6.0sec.



5 - 2

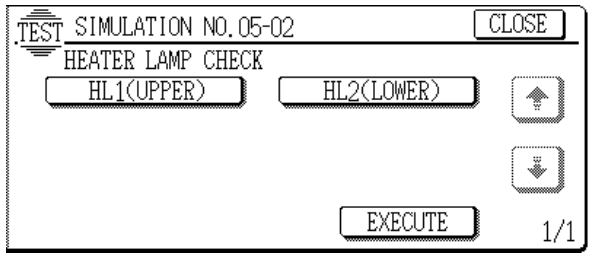
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the heater lamp and the control circuit.
Section	Fixing (Fusing)
Item	Operation
Operation/ Procedure	1. Select the lamp to be checked with the key. 2. Press the [EXECUTE] key.

The selected heater lamp repeats ON/OFF in the frequency of 500msec for 10sec.

Then the [EXECUTE] key returns to the normal display.

When the [EXECUTE] key is pressed during ON/OFF operation of the heater lamp, the heater lamp is turned OFF and the [EXECUTE] key returns to the normal display.

HL1	Upper heater lamp
HL2	Lower heater lamp

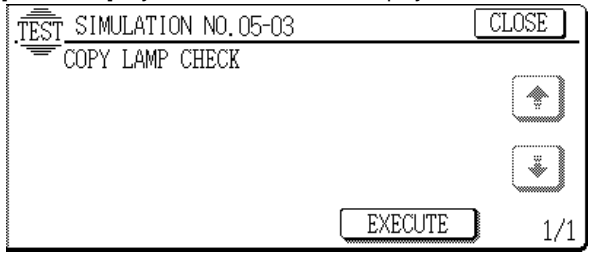


5 - 3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the scanner lamp and the control circuit.
Section	Optical (Image scanning)
Item	Operation
Operation/ Procedure	When the [EXECUTE] key is pressed, the scanner lamp is lighted for 10 sec.

While the scanner lamp is lighted, the [EXECUTE] key is high-lighted. If the [EXECUTE] key is pressed under this state, the lamp is turned OFF.

After 10 sec, the scanner lamp is turned OFF. At that time, the [EXECUTE] key returns to the normal display.

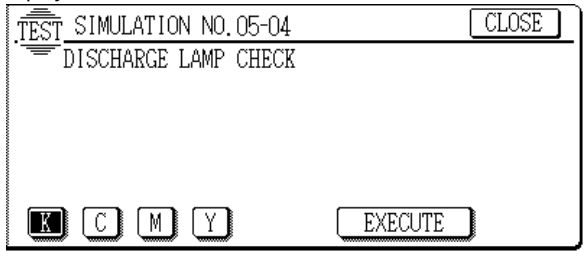


5 - 4

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the discharge lamp and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning) Others
Item	Operation
Operation/ Procedure	1. Select the target discharge lamp with the [K], [C], [M], and [Y] keys. K: Black C: Cyan M: Magenta Y: Yellow 2. When the [EXECUTE] key is pressed, the key is highlighted and the selected discharge lamp is lighted.

After 30 sec of lighting, the lamp is turned OFF and the [EXECUTE] key returns to the normal display.

If the [EXECUTE] key is pressed while the lamp is lighted, the lamp is turned OFF and the [EXECUTE] key returns to the normal display.



6

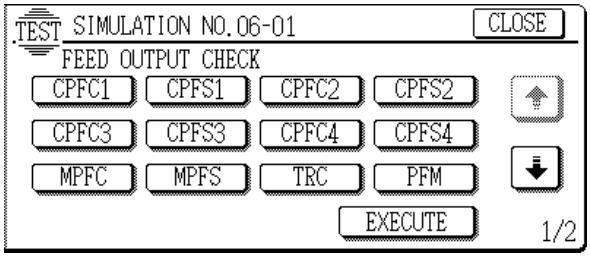
6 - 1

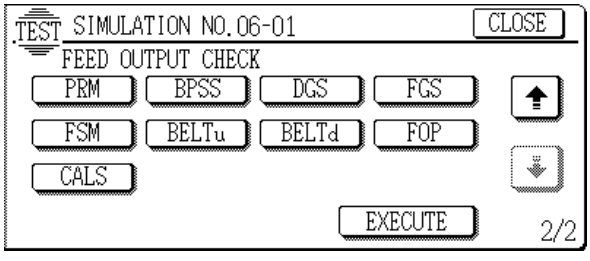
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads (clutches and solenoids) in the paper transport system and the control circuits.
Section	Paper transport (Discharge/Switchback/Transport)
Item	Operation
Operation/ Procedure	1. The names of the loads which can be checked are displayed. Select the load to be checked with the key, and the selected load is highlighted.

2. Press the [EXECUTE] key.
   The selected load starts the operation.
   During the operation of the load, the [EXECUTE] key is highlighted.

If the [EXECUTE] key is pressed while it is highlighted, the operation is stopped.

CPFC1	Cassette 1 paper feed clutch
CPFS1	Cassette 1 paper feed solenoid
CPFC2	Cassette 2 paper feed clutch
CPFS2	Cassette 2 paper feed solenoid
CPFC3	Cassette 3 paper feed clutch
CPFS3	Cassette 3 paper feed solenoid
CPFC4	Cassette 4 paper feed clutch
CPFS4	Cassette 4 paper feed solenoid
MPFC	Manual paper feed clutch
MPFS	Manual paper feed solenoid
TRC	Transport clutch
PFM	Paper feed motor
RRM	Resist roller motor
BPSS	Separation pawl operation solenoid
DGS	ADU gate solenoid
FGS	FGS paper feed gate solenoid
FSM	Fusing motor
BELTu	Belt lift up motor up
BELTd	Belt lift up motor down When BELTu and BELTd are selected at the same time, up/down operations are repeated.
FOP	Oil pump solenoid
CALS	Proofreading plate open/close solenoid





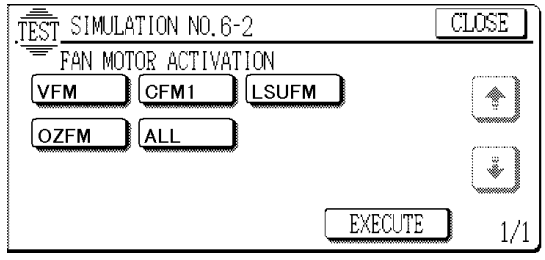
6 - 2

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of each fan motor and its control circuit.
Section	Others
Item	Operation
Operation/ Procedure	1. The loads which can be checked are displayed. Select one you want to check.

2. Press the [EXECUTE] key.
   The selected load is operated. During operation, the [EXECUTE] key is highlighted. To interrupt the operation of the load, press the [EXECUTE] key.

Each fan motor rotating operation is checked.

VFM : Exhaust fan motor
CFM1 : Optical cooling fan motor
LSUFM : LSU cooling fan motor
OZFM : Ozone exhaust fan motor
ALL : All fan motors



7

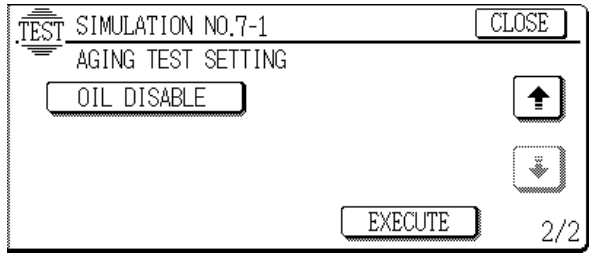
7 - 1

Purpose	Setting/Operation test/check
Function (Purpose)	Used to set the aging conditions.
Item	Operation
Operation/ Procedure	1. Press each corresponding key to set for the aging operation. (Set items of each key) The selected key is highlighted.

2. Press the [EXECUTE] key.
   Aging is set and the display returns to the simulation main code entry display.

* When this simulation is executed, the machine resumes operation regardless of setting (changing) of aging.

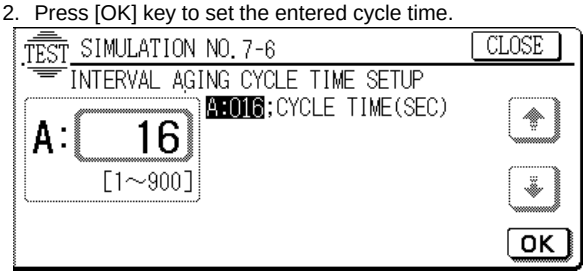
[AGING] Aging setting
[MISFEED DISABLE] Jam detection enable/disable setting
[FUSING DISABLE] Fusing operation enable/disable setting
[WARMUP DISABLE] Warm-up save setting
[INTERVAL] Intermittent setting (Valid only in [AGING] setting)
[DV CHECK DISABLE] Developing unit detection enable/disable setting
[OIL DISABLE] Oil detection operation YES/NO setting



7 - 6

Purpose	Setting/Operation test/check
Function (Purpose)	Used to set the intermittent aging cycle.
Item	Operation
Operation/ Procedure	1. Enter the interval aging cycle time (sec) with the 10-key pad.

2. Press [OK] key to set the entered cycle time.

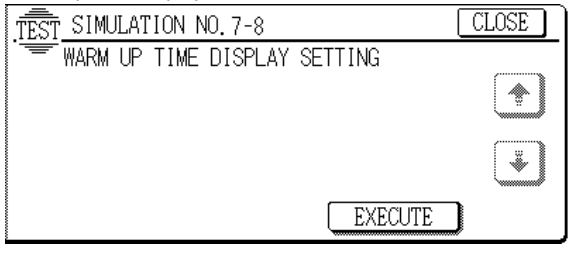


7 - 8

Purpose	Setting/Operation test/check
Function (Purpose)	Used to set Yes/No of warm-up time display.
Item	Operation
Operation/ Procedure	Press the [EXECUTE] key to set the warmup time display.

When the [EXECUTE] key is pressed, the warmup time display setting is executed and the display returns to the simulation main code entry display.

* When this simulation is canceled after completion of it, the machine resumes operation regardless of setting (changing) of warmup time display.

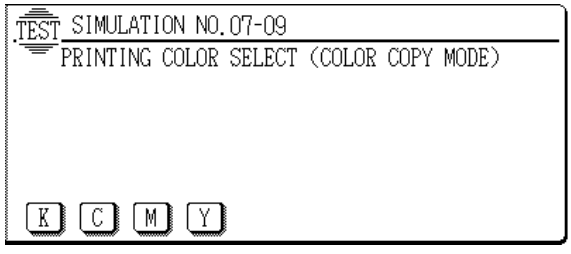


7 - 9

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of each color image quality.
Section	Others
Item	Picture quality
Operation/ Procedure	1. Select the color of image quantity and operation check with the key.

2. Press the START key.

Copying is performed with the color selected in procedure 1).
When no print color is selected, the operation is made with the all colors.



8

8 - 1

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of each print mode developing bias voltage and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Operation/ Procedure	(The developing bias output voltage in each of the following print modes can be adjusted and checked.)

[Color]

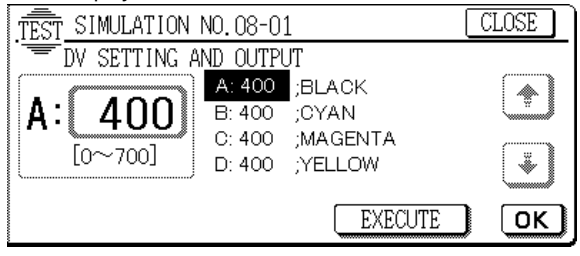
		Default value
K:	Black	325
C:	Cyan	325
M:	Magenta	325
Y:	Yellow	325

[Adjustment range]

0 – 700 (Default: 325)
The actual output variation range is all 0V – –700V.
(Default: –325V)

1. Select the color mode with the [K], [C], [M], or [Y] key.
2. Select the copy mode with [↑] key and [↓] key.
3. Enter the adjustment value with the 10-key pad.
4. Press the [EXECUTE] key.

The [EXECUTE] key is highlighted, the adjustment value entered in procedure 2 is set, and the voltage corresponding to the set value is supplied.
After supplying the voltage for 30 sec, the [EXECUTE] key returns to the normal display.
If the [EXECUTE] key is pressed while the voltage is supplied, the voltage output is stopped and the [EXECUTE] key returns to the normal display.



If the [EXECUTE] key is pressed while the voltage is supplied, the voltage output is stopped and the [EXECUTE] key returns to the normal display.

8 - 2

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of each print mode main charger grid voltage and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Operation/ Procedure	(The charging/grid output voltage in each print mode can be adjusted and checked.)

1. Select the color mode with the [K], [C], [M], and [Y] keys.
2. Select the print mode with [↑] key and [↓] key.
3. Enter the adjustment value with the 10-key pad.
4. Press the [EXECUTE] key.

The [EXECUTE] key is highlighted, the adjustment value entered in procedure 2 is set, and the voltage corresponding to the set value is supplied.

After supplying the voltage for 30 sec, the [EXECUTE] key returns to the normal display.

If the [EXECUTE] key is pressed while the voltage is supplied, the voltage output is stopped and the [EXECUTE] key returns to the normal display.

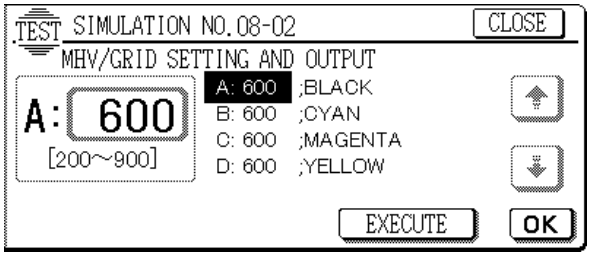
[Color]

		Defaul value	
K:	Black	525 (AR-C100/C150)	545 (AR-C250)
C:	Cyan	525 (AR-C100/C150)	545 (AR-C250)
M:	Magenta	525 (AR-C100/C150)	545 (AR-C250)
Y:	Yellow	525 (AR-C100/C150)	545 (AR-C250)

[Adjustment range]

200 – 900

The actual output variation range is –200 – –900V.



8 - 6

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the transfer charger current and the control circuit. (Old)
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) Copy
Operation/ Procedure	(The transfer charger output voltage in printing the front and the back of paper can be adjusted and checked.)

1. Select the color mode with the [K], [C], [M], and [Y] keys.
2. Select the paper feed mode with [↑] key and [↓] key.
3. Enter the adjustment value with the 10-key pad.
4. Press the [OK] key.

(Note) Never press the [EXECUTE] key.
If the [EXECUTE] key should be pressed with the transfer belt and the photoconductor being stationary, the transfer voltage would be outputted to damage the photoconducotor drum.
If the ROM version is updated to the latest one, the same operation can be performed with SIM 44-30. In this case, however, pressing the [EXECUTE] key to output the transfer voltage causes no problem.
The transfer belt and the photoconductor are rotate, in the SIM 44-30.

[Color]
K: Black
C: Cyan
M: Magenta
Y: Yellow

[Paper feed mode]
SPX: Cassette and manual paper feed
DPX: Duplex paper feed
TRANSPARENCY: OHP paper feed
HEAVYPAPER: Heavy paper feed

[Adjustment range]

51 – 255 (Default: Varies depending on the color and the paper feed mode.) The actual output variable range varies depending on the color as follows:

K: 0V – 1713V (Default: SPX/DPX is about 1066V at 178. TRANSPARENCY/HEAVYPAPER is about 1285V at 204.)

C: 0V – 2284V (Default: SPX/DPX is about 1265KV at 164. TRANSPARENCY is about 1769V at 209. HEAVYPAPER is about 1523V at 187.)

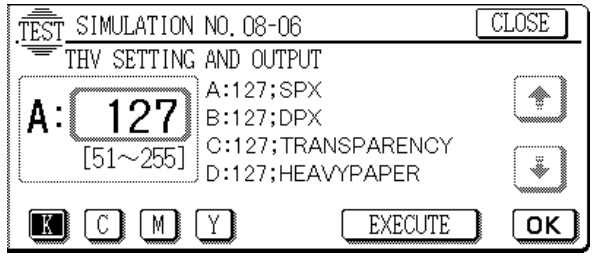
M: 0V – 4000V (Default: SPX/DPX is about 1412V at 123. TRANSPARENCY is about 2275V at 167. HEAVYPAPER is about 1706V at 138.)

Y: 0V – 4000V (Default: SPX/DPX is about 1412V at 123. TRANSPARENCY is about 2569V at 182. HEAVYPAPER is about 1706V at 138.)

[Adjustment unit]

K: About 8.4 [V/Count]
C: About 11.2 [V/count]
M: About 19.6 [V/Count]
Y: About 17.6 [V/Count]

	Display	Default value			
		BK	C	M	Y
Normal paper mode	A: SPX	178	164	123	123
ADU mode	B: DPX	178	164	123	123
OHP mode	C: OHP	204	209	167	182
Heavy paper mode	D: HEAVY PAPER	204	187	138	138



* In the AR-C100/C150, this simulation is abolished and the transfer voltage adjustment is shifted to SIM 44-30 from the middle of the production.

9

9 - 1

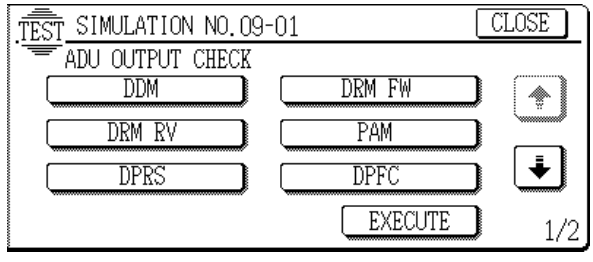
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the loads (clutches and solenoids) in the duplex section and the control circuit. (AR-C150/C250)
Section	Duplex
Item	Operation
Operation/ Procedure	1. Select the load to be checked with the key. The selected key is highlighted.

2. Press the [EXECUTE] key.

The load selected in procedure 1 is operated.

While the load is operated, the [EXECUTE] key is highlighted.
If the [EXECUTE] key is pressed under this state, the load operation is interrupted.

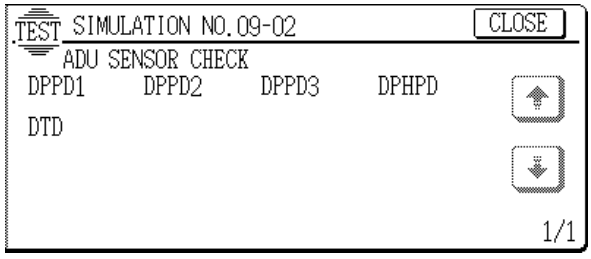
DDM : Transport motor
DRM FW : Reverse motor (Forward rotation)
DRM RV : Reverse motor (Reverse rotation)
PAM : Alignment motor
DPRS : Pressure solenoid
DTC : Transport clutch
DCC : Decurler clutch



9 - 2

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the sensors and detectors in the duplex section and the control circuit. (AR-C150/C250)
Section	Duplex
Item	Operation
Operation/ Procedure	The operations of sensors and detectors in the duplex section are displayed. The active sensors and detectors are highlighted.

DPPD1	Duplex unit paper transport switch 1
DPPD2	Duplex unit paper transport switch 2
DPPD3	Duplex unit paper transport switch 3
DPHPD	Alignment home position sensor
DTD	Decolor sensor



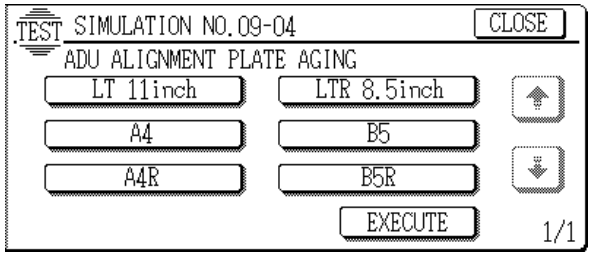
9 - 4

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the duplex unit alignment plate and the control circuit. (AR-C150/C250)
Section	Duplex
Item	Operation
Operation/ Procedure	1. Select the paper size. The selected paper size is highlighted.

2. Press the [EXECUTE] key.

   Alignment operation is continuously operated.

During the operation, the [EXECUTE] key is highlighted.
If the [EXECUTE] key is pressed under this state, the operation is interrupted.



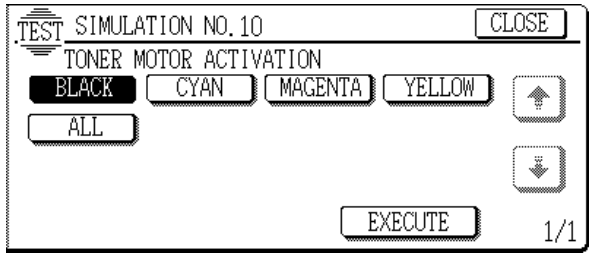
10

10 - 0

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the toner motor and the control circuit. (Note) Never execute this simulation with toner in the toner hopper. Otherwise extra toner will enter the developing section, causing overtoner. Be sure to remove the toner from the toner hopper.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning) Developer/Toner Hopper
Item	Operation
Operation/ Procedure	1. Select the toner motor to be checked. 2. When the [EXECUTE] key is pressed, it is highlighted and the toner motor rotates for 10 sec.

After 10sec of rotation, the toner motor stops and the [EXECUTE] key returns to the normal display.
If the [EXECUTE] key is pressed during rotation, the toner motor is stopped and the [EXECUTE] key returns to the normal state.
The rotating operation of the toner motor of the developing unit is checked for 10 sec.

BLACK : Black toner motor
CYAN : Cyan toner motor
Magenta : Magenta toner motor
YELLOW : Yellow toner motor
ALL : All toner motors



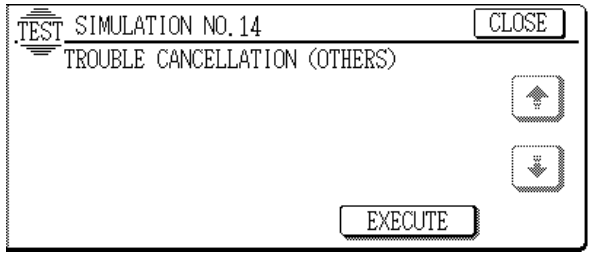
14

14 - 0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel self diag troubles H3, H4, and H5. Inhibition of the color copy mode operation is canceled.
Item	Trouble Error
Operation/ Procedure	When the [EXECUTE] key is pressed, the following troubles are canceled and the display returns to the simulation main code entry screen. After this simulation is canceled, the machine resumes operation.

Target trouble code	Description
H3_00	Heat roller high temperature detection (HL1)
H3_01	Heat roller high temperature detection (HL2)
H4_00	Heat roller low temperature detection (HL1)
H4_01	Heat roller low temperature detection (HL2)
H5_01	3 times continuous POD1/PPID not-reaching JAM detection

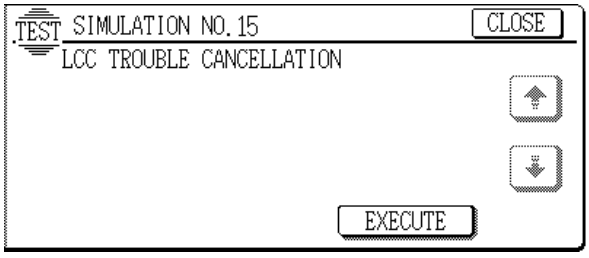
Note: These trouble states are stored even when the power is turned off.



15

15 - 0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel self diag trouble U6 (Large capacity tray). (AR-C150/C250)
Section	Paper transport
Item	Trouble
Operation/ Procedure	When the [EXECUTE] key is pressed, the U6 (LCC) trouble is canceled and the display returns to the simulation main code entry screen. After canceling this simulation, the machine resumes operation.



16

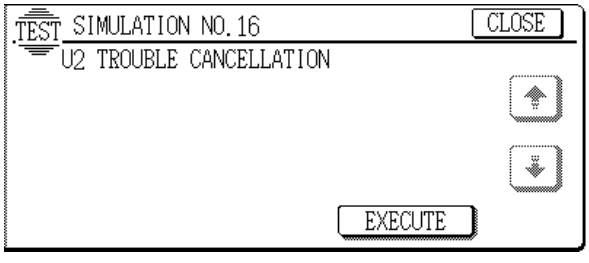
16 - 0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel self diag trouble U2.
Item	Trouble Error
Operation/ Procedure	When the [EXECUTE] key is pressed, the U2 trouble is canceled and the display returns to the simulation main code entry screen. After this simulation is canceled, the machine resumes operation.

* Troubles canceled by this simulation

Target trouble code	Description
U2_00	EEPROM read/write error (PCU)
U2_11	Counter check sum error (PCU)
U2_12	Adjustment value check sum error (PCU)
U2_20	EEPROM read/write error (ICU)
U2_21	Counter check sum error (ICU)
U2_22	Adjustment value check sum error (ICU)
U2_30	Serial number abnormality

Note: These trouble states are stored even when the power is turned off.



17

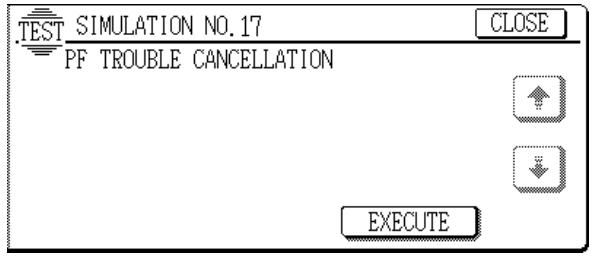
17 - 0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel self diag troubles PF (copy inhibition command from the host computer).
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Trouble Error
Operation/ Procedure	When the [EXECUTE] key is pressed, the PF trouble is canceled and the display returns to the simulation main code entry screen. After this simulation is canceled, the machine resumes operation.

* Troubles canceled by this simulation

Target trouble code	Description
PF_00	RIC copy inhibit command reception

Note: The trouble state is stored even when the power is turned off.

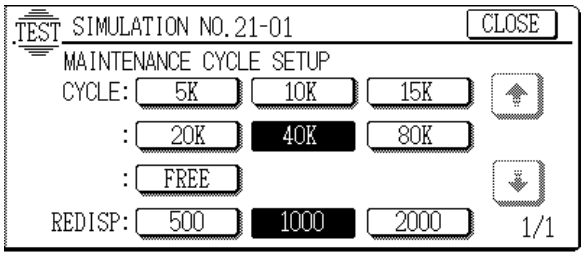


21

21 - 1

Purpose	Setting
Function (Purpose)	Used to set the maintenance cycle.
Item	Specifications Counter
Operation/ Procedure	When the maintenance cycle is selected with the key, the selected key is highlighted. The maintenance message is displayed in every selected cycle. When FREE is selected, the maintenance display is not shown.

Item	Content	Set value	Series of characters	Default value
CYCLE	Maintenance cycle (AR-C150/C250)	0	5K	4
		1	10K	
		2	15K	
		3	20K	
		4	40K	
		5	80K	
		6	FREE	
REDDISP	Mmaintenance message re-display setting (AR-C100)	0	500	1
		1	1000	
		2	2000	



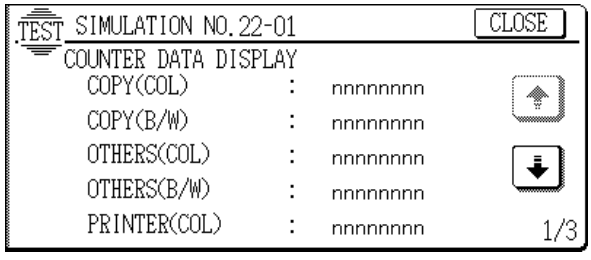
22

22 - 1

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)
Item	Counter
Operation/ Procedure	

	Display	Content
AR-C150/ C250	COPY (COL)	Copy counter (Color)
	COPY (B/W)	Copy counter (B/W)
	OTHERS (COL)	Self print counter (Color)
	OTHERS (B/W)	Self print counter (B/W)
	PRINTER (COL)	Print counter (Color)
	PRINTER (B/W)	Print counter (B/W)
	MAINTENANCE (TTL)	Maintenance counter (Total)
	MAINTENANCE (COL)	Maintenance counter (Color)
	DEVELOPER (K)	Developer counter (K)
	DEVELOPER (C)	Developer counter (C)
	DEVELOPER (M)	Developer counter (M)
	DEVELOPER (Y)	Developer counter (Y)
	SCAN (SCANNER)	Scan counter
AR-C100	COLOR (A3)	Total counter B5 (Color)
	COLOR (B4)	Total counter A4 (Color)
	COLOR (A4)	Total counter B4 (Color)
	COLOR (B5)	Total counter A3 (Color)
	COLOR (OTHER)	Total counter self print (Color)
	B/W (A3)	Total counter A3 (B/W)
	B/W (B4)	Total counter B4 (B/W)
	B/W (A4)	Total counter A4 (B/W)
	B/W (B5)	Total counter B5 (B/W)
	B/W (OTHER)	Total counter self print (B/W)
	MAINTENANCE (TTL)	Maintenance counter (Total)
	MAINTENANCE (COL)	Maintenance counter (Color)
	DEVELOPER (K)	Developer counter (K)
	DEVELOPER (C)	Developer counter (C)
	DEVELOPER (M)	Developer counter (M)
	DEVELOPER (Y)	Developer counter (Y)
	SCAN (MIRROR)	Scan counter

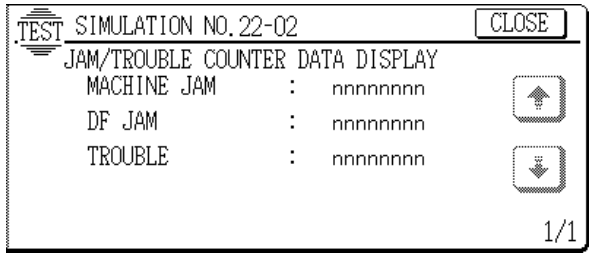
FAX and PDA/ZR are only for Japan models.



22 - 2

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the total misfeed count and the total trouble count. (If the misfeed count is considerably great, it may be judged as necessary to repair. By dividing this count by the total count, the misfeed rate can be obtained.)
Item	Trouble
Operation/ Procedure	MACHINE JAM : The number of paper jam troubles occurred in the sections other than the document feeders (SPF/ADF/RADF). DF JAM : The number of paper jam troubles occurred in the document feeders (SPF/ADF/RADF). TROUBLE : Total number of troubles

Display	Content
MACHINE JAM	Jam counter (Machine)
DF JAM	Jam counter (DF)
TROUBLE	Trouble counter

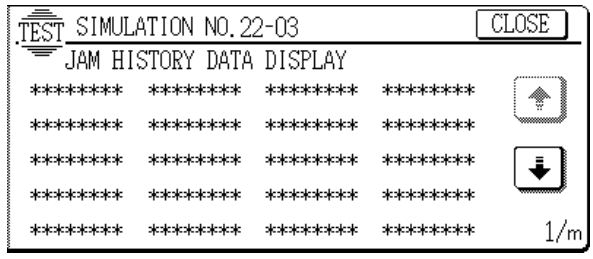


22 - 3

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check misfeed positions and the misfeed count of each position. (If the misfeed count is considerably great, it may be judged as necessaary to repair.) (Other sections than RADF section)
Item	Trouble Misfeed
Operation/ Procedure	The misfeed history sections indicated by the sensors and detectors are displayed sequentially from the latest one. Max. 40 items of information can be stored, and the oldest one is deleted sequentially. The trouble position may be presumed with this data.

	Code	Meaning
Engine system	**CS4**	Paper feed jam (PFD4 not reached)
	PFD4_SC4P	PFD4 remaining jam (Cassette 4 feed paper)
	CS3	Paper feed jam (PFD3 not reached)
	PFD3_NC4	Not reached jam (Cassette 4 feed paper)
	PFD3_SC3	Remaining jam (Cassette 3 feed paper)
	PFD3_SC4	Remaining jam (Cassette 4 feed paper)
	CS2	Paper feed jam (PFD2 not reached)
	PFD2_NC3	Not reached jam (Cassette 3 feed paper)
	PFD2_NC4	Not reached jam (Cassette 4 feed paper)
	PFD2_SC2	Remaining jam (Cassette 2 feed paper)
	PFD2_SC3	Remaining jam (Cassette 3 feed paper)
	PFD2_SC4	Remaining jam (Cassette 4 feed paper)
	CS1	Cassette 1 paper feed jam (PFD1 not reached)
	PFD1_NC2	Not reached jam (Cassette 2 feed paper)

	Code	Meaning
Engine system	**PFD1_NC3**	Not reached jam (Cassette 3 feed paper)
	PFD1_NC4	Not reached jam (Cassette 4 feed paper)
	DUP	Duplex re-feed jam (PFD1 not reached)
	PFD1_SC1	Remaining jam (Cassette 1 feed paper)
	PFD1_SC2	Remaining jam (Cassette 2 feed paper)
	PFD1_SC3	Remaining jam (Cassette 3 feed paper)
	PFD1_SC4	Remaining jam (Cassette 4 feed paper)
	PFD1_SAD	Remaining jam (ADU re-feed paper)
	MFT	Manual feed tray paper feed jam (PPD1 not reached)
	PPD1_NC1	Not reached jam (Cassette 1 feed paper)
	PPD1_NC2	Not reached jam (Cassette 2 feed paper)
	PPD1_NC3	Not reached jam (Cassette 3 feed paper)
	PPD1_NC4	Not reached jam (Cassette 4 feed paper)
	PPD1_NLC	Not reached jam (LCC tray feed paper)
	PPD1_NAD	Not reached jam (ADU re-feed paper)
	PPD1_SMF	Remaining jam (Manual paper feed tray paper)
	PPD1_SC1	Remaining jam (Cassette 1 feed paper)
	PPD1_SC2	Remaining jam (Cassette 2 feed paper)
	PPD1_SC3	Remaining jam (Cassette 3 feed paper)
	PPD1_SC4	Remaining jam (Cassette 4 feed paper)
	PPD1_SLC	Remaining jam (LCC tray feed paper)
	PPD1_SAD	Remaining jam (ADU re-feed paper)
	PPD1_PRE	Jam (The image ready signal is not supplied from ICU.)
	PPD1_PRI	Jam (The print request command is not supplied from ICU.)
	BPD_N	Not reached jam
	BPD_S	Remaining jam
	DPID_N	Not reached jam
	DPID_S	Remaining jam
	POD_N	Not reached jam
	POD_S	Remaining jam
	PODF_N	Not reached jam
	PODF_S	Remaining jam
ADU inside	**DPPD1_N**	Not reached jam
	DPPD1_S	Remaining jam
	DPPD2_N	Not reached jam
	DPPD2_S	Remaining jam
	DPPD3_N	Not reached jam
	DPPD3_S	Remaining jam
	DTD_N	Not reached jam
	DTD_S	Remaining jam
LCC	**LCC**	Paper feed jam (LPFD not reached)
	LPFD_S	Unit LPFD remaining jam
Sorter	**SPEXT_N**	Sorter paper exit sensor not reached jam
	SPEXT_S	Sorter paper exit sensor remaining jam
	SDOP	Sorter door open jam
Finisher	**FRENT**	Reverse not reached jam
	FREXT	Reverse remaining jam
	FINPD	Transport remaining/bundle push/bundle return/power ON/early reaching jam
	FDOP	Door open jam
Scanner	**OG_FD**	RADF preliminary paper feed jam
	OG_ST	RADF paper feed jam
	EXT	RADF paper exit jam
	REV	RADF reverse jam



22 - 4

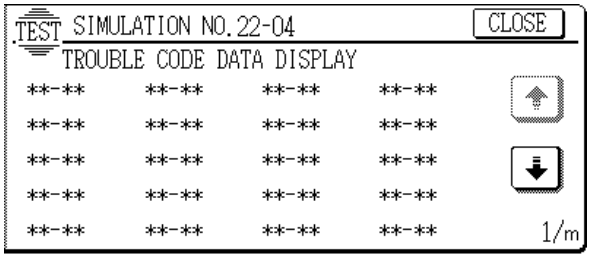
Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the total trouble (self diag) history.
Item	Trouble
Operation/ Procedure	The trouble history error codes are displayed sequentially from the latest one. Max. 40 items of information can be stored, and the oldest one is deleted sequentially. The machine condition can be presumed according to this data.

Model	Main code	Sub code	Content
AR-C250	A0	0	ROM trouble (PCU MAIN PWB)
AR-C100, AR-C150, AR-C250	C1	10	Charger trouble (Black)
		11	Charger trouble (Cyan)
		12	Charger trouble (Magenta)
		13	Charger trouble (Yellow)
	E7	01	Image data memory trouble
		10	Shading trouble (Black correction)
		11	Shading trouble (White correction)
		20	Laser trouble (Black)
		21	Laser trouble (Cyan)
		22	Laser trouble (Magenta)
		23	Laser trouble (Yellow)
		24	Laser BD detection trouble (Black)
		25	Laser BD detection trouble (Cyan)
		26	Laser BD detection trouble (Magenta)
		27	Laser BD detection trouble (Yellow)
		30	ICU PWB ROM trouble
		90	ICU-PCU communication trouble (PCU detection)
	E8	00	ICU PWB - PCU PWB communication trouble
		01	ICU PWB - PCU PWB communication trouble
AR-C250	F1	0	Communication trouble between PCU MAIN PWB - Finisher control PWB (Detected by PCU MAIN PWB)
		2	Finisher paper exit trouble (Finisher side detection)
		10	Finisher staple trouble (Finisher side detection)
		11	Finisher bundle process trouble (Finisher side detection)
		15	Finisher tray lift trouble (Finisher side detection)
		19	Finisher alignment trouble (Front side) (Finisher side detection)
		20	Finisher alignment trouble (Rear side) (Finisher side detection)
AR-C150, AR-C250		70	Sorter communication trouble (Machine detection)
		80	Sorter power trouble (Sorter detection)
		81	Sorter transport motor trouble (Sorter detection)

Model	Main code	Sub code	Content
AR-C150, AR-C250	F1	83	Sorter push bar motor trouble (Sorter detection)
		87	Sorter staple unit oscillation motor trouble (Sorter detection)
		89	Sorter bin shift motor trouble (Sorter detection)
		91	Bin paper sensor auto adjustment trouble (Sorter detection)
AR-C100, AR-C150, AR-C250	F2	40	Toner control sensor open (Black)
		41	Toner control sensor open (Cyan)
		42	Toner control sensor open (Magenta)
		43	Toner control sensor open (Yellow)
		44	Black image density sensor trouble (Transfer belt surface reflection rate abnormality)
		45	Color image density sensor trouble (Calibration plate surface reflection rate abnormality)
		50	Process control trouble (Drum marking read error: Black)
		51	Process control trouble (Drum marking read error: Cyan)
		52	Process control trouble (Drum marking read error: Magenta)
		53	Process control trouble (Drum marking read error: Yellow)
		54	Drum marking sensor gain adjustment error (Black)
		55	Drum marking sensor gain adjustment error (Cyan)
		56	Drum marking sensor gain adjustment error (Magenta)
		57	Drum marking sensor gain adjustment error (Yellow)
		58	Process humidity sensor trouble
		63	Process thermistor trouble (Yellow)
		80	Half tone process control 1st batch trouble (Black)
		81	Half tone process control 1st batch trouble (Cyan)
		82	Half tone process control 1st batch trouble (Magenta)
		83	Half tone process control 1st batch trouble (Yellow)
		84	Half tone process control 2nd batch trouble (Black)
		85	Half tone process control 2nd batch trouble (Cyan)
		86	Half tone process control 2nd batch trouble (Magenta)
		87	Half tone process control 2nd batch trouble (Yellow)
		90	Half tone process control error
	F3	12	Cassette 1 lift up trouble
		22	Cassette 2 lift up trouble
		32	Cassette 3 lift up trouble
		42	Cassette 4 lift up trouble
AR-C150, AR-C250	F9	00	ICU-PRT communication trouble (ICU detection)
AR-C100, AR-C150, AR-C250	H2	00	Thermistor open/Fusing unit not installed (HL1)
		01	Thermistor open/Fusing unit not installed (HL2)
		02	Thermistor open/Fusing unit not installed (HL3)

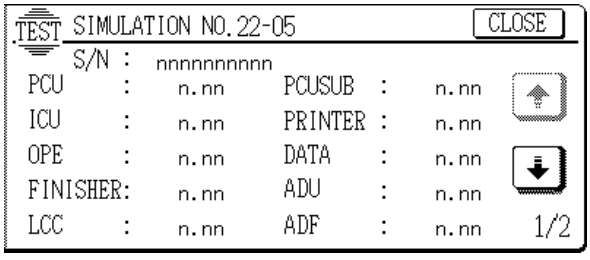
Model	Main code	Sub code	Content
AR-C100, AR-C150, AR-C250	H2	03	Thermistor open/Fusing unit not installed (HL4) The thermistor is open. (The input voltage of 4.6V or more is detected.) The fusing unit is not installed.
	H3	00	Fusing section high temperature trouble (HL1)
		01	Fusing section high temperature trouble (HL2)
		02	Fusing section high temperature trouble (HL3)
		03	Fusing section high temperature trouble (HL4) The fusing temperature exceeds 220 C. (The input voltage of 0.85V or less is detected.) Thermitor trouble, control PWB trouble, fusing section connector trouble, AC power trouble
	H4	00	Fusing section low temperature trouble (HL1)
		01	Fusing section low temperature trouble (HL2)
	H5	01	3-time continuous detection of POD/DPID not-reaching jam
	H6	00	Fusing oil remaining quantity abnormality detection
	H7	00	AC input voltage (HLV) abnormality detection
	L1	00	Mirror feed trouble
	L3	00	Mirror return trouble
	L4	03	Fusing motor trouble
		04	Developing motor trouble (Black)
		05	Developing motor trouble (Color)
		06	Transfer belt lift motor trouble
	L6	10	Polygon motor lock detection (Black)
		11	Polygon motor lock detection (Cyan)
		12	Polygon motor lock detection (Magenta)
		13	Polygon motor lock detection (Yellow)
	L8	01	No full wave signal
		02	Full wave signal abnormality
	PF	00	RIC copy inhibition signal reception
	U0	00	OPE-PCU sub communication trouble (OPE/PCU detection)
		80	PCU-PCU sub communication trouble (PCU detection)
	U2	00	EEPROM read/write error (PCU detection)
		11	Counter check sum error(PCU)
		12	Adjustment value check sum error (PCU)
		20	EEPROM read/write error (ICU)
		21	Counter check sum error (ICU)
		22	Adjustment value check sum error (ICU)
		30	Manufacturing No. data discrepancy
	U4	00	ADU communication trouble
		02	ADU alignment plate operation abnormality
		12	ADU transport motor trouble
	U5	00	ADF communication trouble
		01	ADF resist sensor error
		02	ADF repulsion sensor error
		03	ADF timing sensor error
		11	Paper fed motor operation trouble
AR-C150, AR-C250	U6	09	LCC lift motor trouble
		20	LCC communication trouble
		21	LCC transport motor trouble
		22	LCC 24V power abnormality

Model	Main code	Sub code	Content
AR-C100, AR-C150, AR-C250	U7	00	RIC communication trouble
	UC	00	CPT board communication trouble
		01	CPT board program hung up
		02	CPT board ASIC abnormality
		03	CPT board ROM abnormality
		04	CPT board RAM abnormality
		05	CPT board model code abnormality



22 - 5

Purpose	Others
Function (Purpose)	Used to check the ROM version of each unit (section).
Item	Software
Operation/ Procedure	The ROM version of each section can be checked. If there is any problem in the software, check the ROM version of each section with this simulation and replace with a new version if necessary.

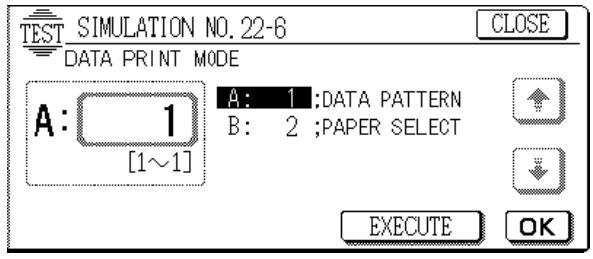


22 - 6

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to print the setting and adjustment data list.
Item	Operation
Operation/ Procedure	When installing or servicing, execute this simulation to print and store the adjustment values and setting data for use in the next servicing. (Memory trouble, PWB replacement, etc.) In this case, the print conditions can be set optionally.

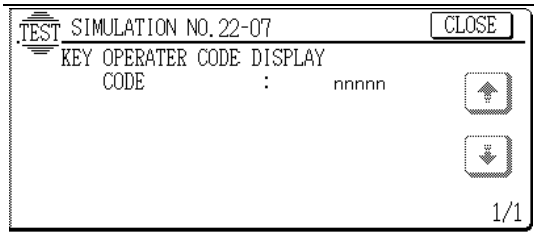
1. Select the setup item.
   (The selected item is highlighted.)
2. Set the item and conditions with the 10-key pad.
3. Press the [EXECUTE] key to print various data.

Item	Display item		Low	High	Default	Description
A	DATA PATTERN		1	1	1	
	= 1					
B	PAPER SELECT		1	6	2	Cassette selection
	= 1	MANUAL				Manual feed cassette
	= 2	CAS1				Cassette 1
	= 3	CAS2				Cassette 2
	= 4	CAS3				Cassette 3
	= 5	CAS4				Cassette 4
	= 6	LCC				LCC



22 - 7

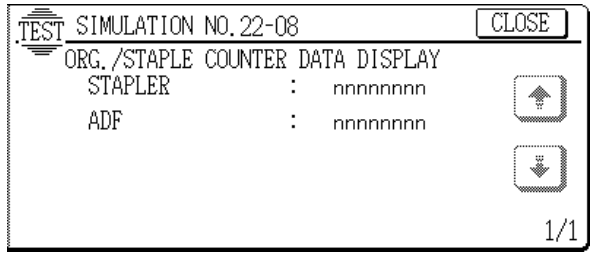
Purpose	User data output/Check (Display/Print)
Function (Purpose)	Used to display the key operator code. (Used when the customer forgets the key operator code.)
Item	Data User data
Operation/ Procedure	



22 - 8

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the number of uses of the staple, and the RADF. (AR-C150/C250)
Item	Counter
Operation/ Procedure	This data is used to check the use frequency of each section. According to this data, maintenance is executed.

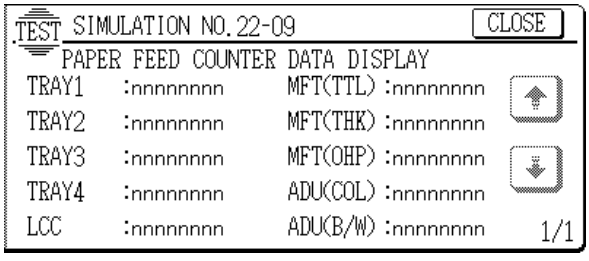
Display	Content
STAPLER	Staple counter
ADF	ADF counter



22 - 9

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the number of uses (print quantity) of each paper feed section.
Section	Paper transport
Item	Counter
Operation/ Procedure	This data is used to check the use frequency of each paper feed section, According to this data, maintenance is performed.

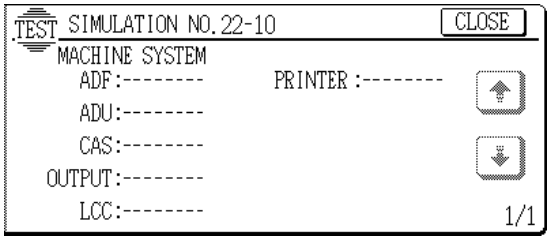
	Display	Content
AR-C150/ C250	TRAY1	Tray 1 counter
	TRAY2	Tray 2 counter
	TRAY3	Tray 3 counter
	TRAY4	Tray 4 counter
	LCC	LCC counter
	NFT (TTL)	Manual feed counter (Total of normal paper, heavy paper, and OHP)
	NFT (THK)	Manual fed counter (Heavy paper)
	NFT (OHP)	Manual feed counter (OHP)
	ADU (COL)	ADU counter (Color)
	ADU (B/W)	ADU counter (B/W)
AF-C100	TRAY1	Tray 1 counter
	TRAY2	Tray 2 counter
	TRAY3	Tray 3 counter
	TRAY4	Tray 4 counter



22 - 10

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the system configuration (option, internal hardware). (AR-C150/C250)
Item	Specifications Options
Operation/ Procedure	This simulation allows to check the system configuration. The devices and the option units which are installed are displayed with the model names, etc.

	Display	Content
DF	-----	Document feed unit not installed
	AR-RF1	Document feed unit (RADF) installed
ADU	-----	Duplex module not installed
	AR-DU2	Duplex module installed
CAS	-----	Cassette not installed
	AR-CS2	Cassette installed
OUTOUT	-----	After-treatment unit not installed
	AR-SS2	20-bin staple sorter installed
	AR-FN4	Finisher installed
LCC	-----	Large capacity paper feed tray not installed
	AR-LC2	Large capacity paper feed tray installed
PRINTER	-----	Printer expansion kit not installed
	AR-PE1	Printer expansion kit (Japan) installed

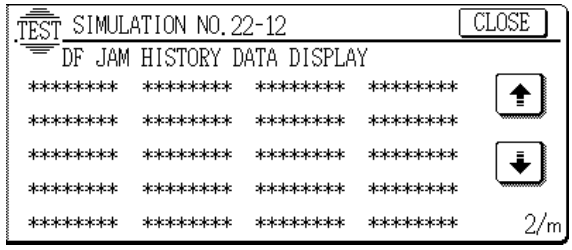


22 - 12

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the misfeed positions and the number (history) of misfeed at each position. (If the misfeed count is considerably great, it may be judged as necessaary to repair.)(AR-C150/C250)
Section	ADF/RADF/UDH/SPF
Item	Trouble Misfeed
Operation/ Procedure	The mis-feed history positions in RADF are displayed with the names of sensors and detectors from the latest one.

Max. 40 items of information can be stored, and the oldest one is deleted sequentially.
The machine condition can be presumed according to this data.

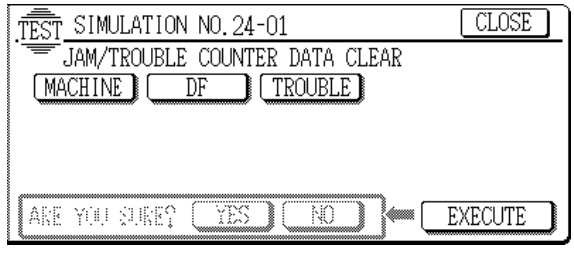
	Code	Meaning
Scanner system	OG_FD	RADF preliminary paper feed jam
	OG_ST	RADF paper feed jam
	EXT	RADF paper exit jam
	REV	RADF reverse jam



24

24 - 1

Purpose	Data clear
Function (Purpose)	Used to clear the the misfeed counter, the misfeed history, the trouble counter, and the trouble history. (After completion of maintenance, the counters are cleared.)
Section	Memory
Item	Counter
Operation/ Procedure	1. Select the counter to be cleared. MACHINE: Machine JAM counter DF: RADF JAM counter TROUBLE: Trouble counter (When selected, it is highlighted.) 2. Press the [EXECUTE] key. The display for reconfirmation to clear is shown. 3. Select YES or NO to clear the counter. YES : Clear NO : Not clear



24 - 2

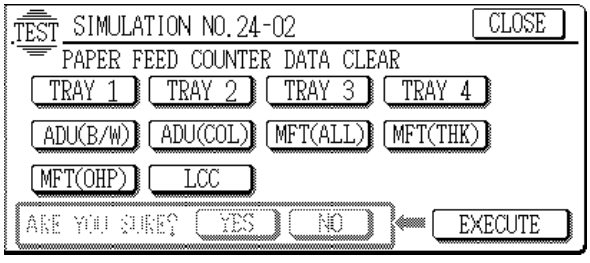
Purpose	Data clear
Function (Purpose)	Used to clear the data of the number of uses (print quantity) of each paper feed section.
Section	Paper transport
Item	Counter Paper feed
Operation/ Procedure	1. Select the counter to be cleared. (The selected key highlighted.)

2. Press the [EXECUTE] key.
   The display for reconfirmation to clear is shown.
3. Select YES or NO to clear the counter.
   YES : Clear
   NO : Not clear

After completion of maintenance, the following counters are cleared.

[TRAY1] Tray 1 counter
[TRAY2] Tray 2 counter
[TRAY3] Tray 3 counter
[TRAY4] Tray 4 counter
[ADU(B/W)] Duplex unit counter (B/W)
[ADU (COL)] Duplex unit counter (Color)
[MFT(ALL)] Manual paper feed counter (Total)
[MFT(THK)] Manual paper feed counter (Heavy paper)
[MFT(OHP)] Manual paper feed counter (OHP)
[LCC] Large capacity tray counter

For the AR-C100, only [TRAY1], [TRAY2], [TRAY3], and [TRAY4] available.



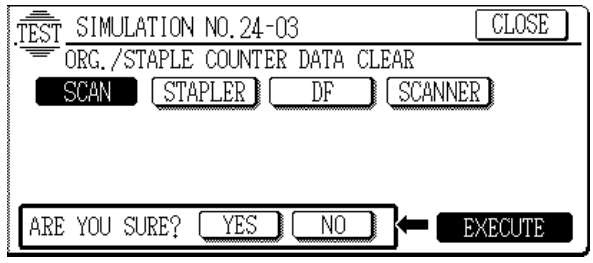
24 - 3

Purpose	Data clear
Function (Purpose)	Used to clear the data of the number of uses of the stapler, the RADF, and the scanner.
Item	Counter
Operation/ Procedure	1. Select the counter to be cleared. DF : RADF counter SCAN : Scan counter STAPLER : Stapler counter (When selected, it is highlighted.)

2. Press the [EXECUTE] key.
   The display for reconfirmation to clear is shown.
3. Select YES or NO to clear the counter.
   YES : Clear
   NO : Not clear

After completion of maintenance, the following counters are cleared.

[DF] RDF counter
[SCAN] Scan counter
[STAPLER] Staple counter
[SCANNER] Scanner counter
(When selected, it is highlighted.)



24 - 4

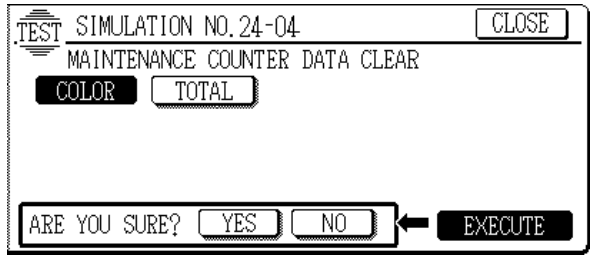
Purpose	Data clear
Function (Purpose)	Used to reset the maintenance counter.
Item	Counter Maintenance
Operation/ Procedure	1. Press the [EXECUTE] key. The display for reconfirmation to clear is shown.

2. Select YES or NO to clear the counter
   YES : Clear
   NO : Not clear

After completion of maintenance, the following counters are cleared.

[COLOR] Maintenance counter (Color)
[TOTAL] Maintenance counter (Total)
(When selected, it is highlighted.)

(The toner image patch counter is also cleared.)



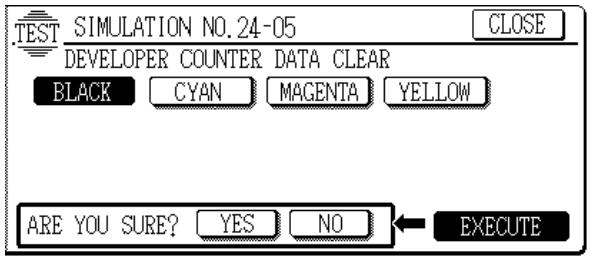
24 - 5

Purpose	Data clear
Function (Purpose)	Used to reset the developer counter. (The developer counter of the installed DV unit is reset.)
Section	Image process (Photoconductor/Developing/Transfer/Cleaning) Developer/Toner Hopper
Item	Counter Developer
Operation/ Procedure	1. Select the developer counter to be cleared.

2. Press the [EXECUTE] key.
   The display for reconfirmation to clear is shown.
3. Select YES or NO to clear the counter.
   YES : Clear
   NO : Not clear

After replacement of the developer, the following counters are cleared.

[BLACK] Developer counter (Black)
[CYAN] Developer counter (Cyan)
[MAGENTA] Developer counter (Magenta)
[YELLOW] Developer counter (Yellow)
(When selected, it is highlighted.)



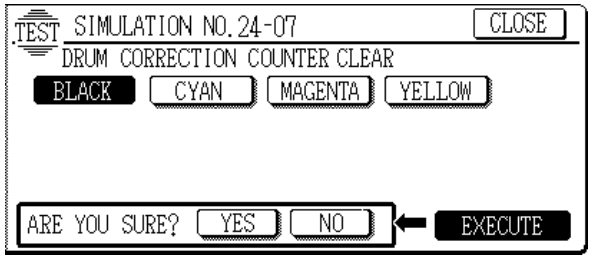
24 - 7

Purpose	Data clear
Function (Purpose)	Used to clear the OPC drum (membrane decrease) correction counter. (Performed when the OPC drum is replaced.)
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) Photo conductor
Item	Counter Photo conductor
Operation/ Procedure	1. Select the counter to be cleared.

[BLACK] Drum membrane decrease correction counter (Black)
[CYAN] Drum membrane decrease correction counter (Cyan)
[MAGENTA] Drum membrane decrease correction counter (Magenta)
[YELLOW] Drum membrane decrease correction counter (Yellow)
(When selected, it is highlighted.)

2. Press the [EXECUTE] key.
   The display for reconfirmation to clear is shown.
3. Select YES or NO to clear the counter.
   YES : Clear
   NO : Not clear

The above counter is cleared after replacement of the OPC drum.

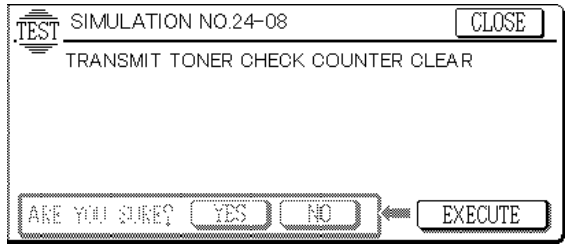


24 - 8

Purpose	Data clear
Function (Purpose)	Used to clear the waste toner counter in the transfer section.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning) Copy
Item	Counter
Operation/ Procedure	1. Press the [EXECUTE] key. The display for reconfirmation to clear is shown.

2. Select YES (Clear) or NO (Not clear).
   YES : Clear
   NO : Not clear

After disposing the transfer waste toner, this counter is cleared.



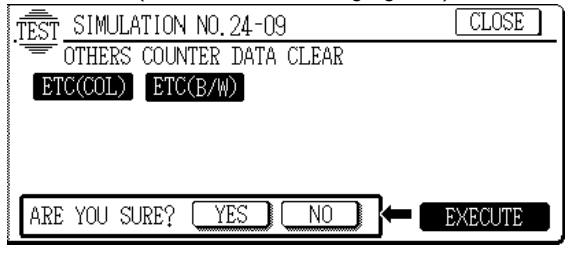
24 - 9

Purpose	Data clear
Function (Purpose)	Used to clear the self print and the list print counter. (After completion of maintenance, this counter is cleared.) (AR-C150/C250)
Section	Printer
Item	Counter Printer
Operation/ Procedure	1. Select the counter to be cleared. 2. Press the [EXECUTE] key. The display for reconfirmation to clear is shown.

3. Select YES (Clear) or NO (Not clear).
   YES : Clear
   NO : Not clear

The following counters are cleared after completion of maintenance.

[ETC(COL)] Self print counter (Color)
[ETC(B/W)] Self print counter (B/W)
(When selected, it is highlighted.)



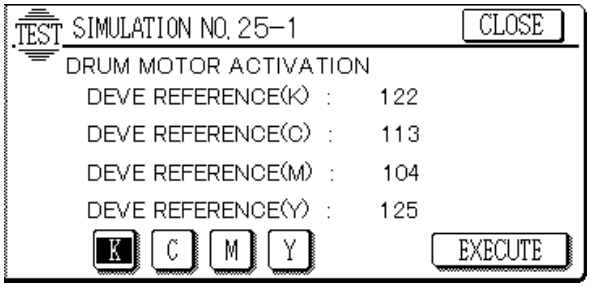
25

25 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the main drive (excluding the scanner section) and the toner density sensor. (The toner density sensor output can be monitored.)
Section	Image process (Photoconductor/Developing/Transfer/Cleaning) Developer/Toner Hopper
Item	Operation
Operation/ Procedure	1. Select the drum motor (drive system) to be checked. 2. When the [EXECUTE] key is pressed, it is highlighted and the main motor rotates and the toner concentration sensor output value is displayed.

The displayed toner concentration sensor output value is of A/D value (255 = 5V).
The drum drive motor rotates for 3 minutes, and the drive system can be checked.
After 3 minutes, the main motor stops and the [EXECUTE] key returns to the normal display.
If the [EXECUTE] key is pressed during rotation, the operation is stopped and the [EXECUTE] key returns to the normal display.
(During this simulation, the belt motor operates simultaneously with the drum motor.)

BLACK Drum motor (Black)
CYAN Drum motor (Cyan)
MAGENTA Drum motor (Magenta)
YELLOW Drum motor (Yellow)



25 - 2

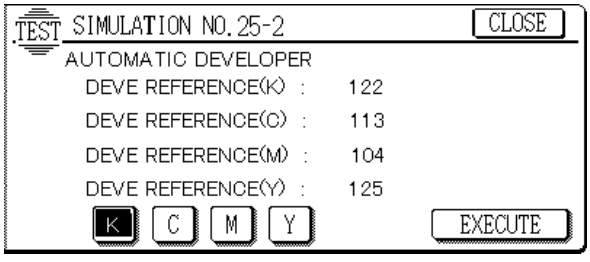
Purpose	Setting
Function (Purpose)	Used to make the initial setup (automatic adjustment) of toner density when replacing developer.
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) Developer/Toner Hopper
Operation/ Procedure	1. Select the developing unit to be checked. 2. When the [EXECUTE] key is pressed, it is highlighted and the main motor rotates, and the toner concentration sensor detects the toner concentration and the output value is displayed.

After stirring for 3 minutes, the toner concentration detection level average value is set (stored) as the reference toner concentration control value.

(Note) If the operation is stopped within 3 minutes, the adjustment result is not stored.

If the [EXECUTE] key is pressed during rotation, the operation stops and the [EXECUTE] key returns to the normal display.
If [EE-EU] or [EE-EL] is displayed, it means the reference toner concentration control value is not set normally.
EE-EL: Less than 79 (1.59V)
EE-EU: More than 177 (3.41V)

(Default value: 128)



26

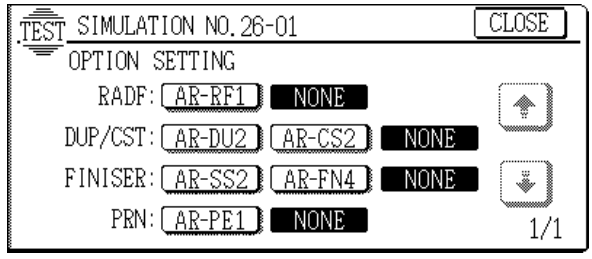
26 - 1

Purpose	Setting
Function (Purpose)	Used to make option setup. (When installing an option, this simulation is used to setup for that option (software). (AR-C150/C250)
Item	Specifications Options
Operation/ Procedure	Enter the code number corresponding to the option installation with the 10-key pad and press the [OK] key. When an option is installed or removed, this setting must be changed accordingly. If this setting is improper, an error message is displayed.

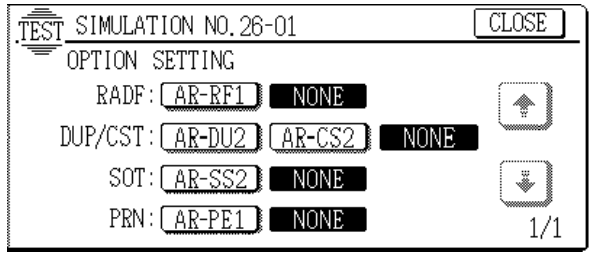
Item	Set value	Connection option
ADF type	0	No connection
	1	AR-RF1
CST type	0	No connection
	1	AR-DU2
CST type	2	AR-CS2
FIN type	0	No connection
	1	AR-SS2
	2	AR-FN4
PRN type	0	No connection
	1	AR-PE1

Default: 0 (No connection) NONE

(Default value: 0)(AR-C250)



(Default value: 0)(AR-C150)



26 - 2

Purpose	Setting
Function (Purpose)	1) Used to set the paper size of the large capacity tray. (When the paper size is changed, the software setup must be changed accordingly with this simulation.) 2) Used to detect 8.5 × 13 (INCH Series) paper or documents and to set the display mode. (All paper feed modes) 3) Used to set the display form of the paper kind in the manual paper feed mode.
Section	Paper transport
Item	Specifications
Operation/ Procedure	1. Used to set the paper size of the large capacity tray. 2. Used to set to allow 8.5" × 13" size paper to be treated as a selectable size. 3. Used to set the paper kind display mode in the manual paper feed mode.

* Documents or paper of 8.5" × 13"# are treated as a selectable size.

	Employed unit		Destination	Set value	
				0 (Default) (Disable)	1 (Enable)
Original	AR-RF1		Japan	A4R	A4R *5
			EX AB series (SUK/SEEG)	A4R	A4R *5
			EX AB series (SCA/Others)	A4R	8.5" × 13" *3
			Inch series (SEC/SECL)	8.5" × 14"	8.5" × 14" *5
			Inch series (Others)	8.5" × 14"	8.5" × 13" *1
	Original table		Japan/ EX AB series	B4	8.5" × 13" *2
			Inch series	8.5" × 14"	8.5" × 13" *1
Paper	Machine	Manual feed tray	All destinations	8.5" × 14"	8.5" × 13" *4
		Paper feed cassette	All destinations	— *6	
	AR-LC2 (LCC)		All destinations	—	

*1: An original of 8.5" × 14" is detected as 8.5" × 13".

*2: An original of B4 size is detected as 8.5" × 13".

*3: An original of A4R size is detected as 8.5" × 13".

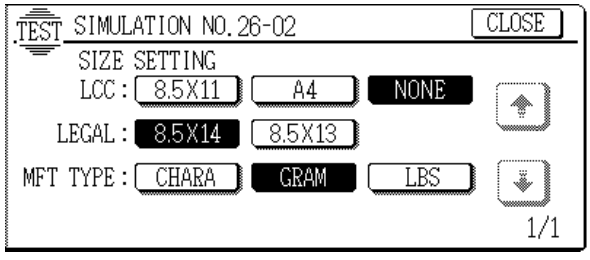
*4: An original of 8.5" × 14" is detected as 8.5" × 13".

*5: Applicable by replacing the AR-AF1/RF1 original tray.

*6: Can be set with the key operator program.

Item	Set value	Content
LCC	0	No size specification (Default)
	1	8.5 × 11
	2	A4
	3	B5 (Disused)
LEGAL (INCH series) *7	0	8.5 × 14 (Default)
	1	8.5 × 13
LEGAL (AB series) *7	0	B4 (Default)
	1	8.5 × 13
MFT TYPE	0	Text display
	1	Gram display (Default)
	2	Pond display

* 7: Depends on the paper type of the destination.

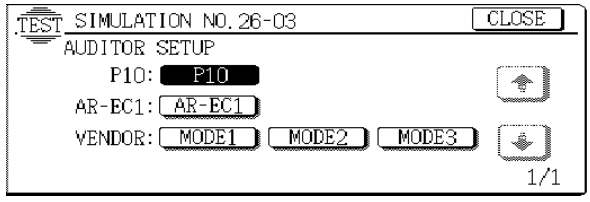


26 - 3

Purpose	Setting
Function (Purpose)	Used to set the auditor specification mode. Setting must be made according to the use conditions of the auditor.
Section	Auditor
Item	Specifications
Operation/ Procedure	Enter the code number corresponding to the auditor specification mode with the 10-key pad and press the [OK] key.

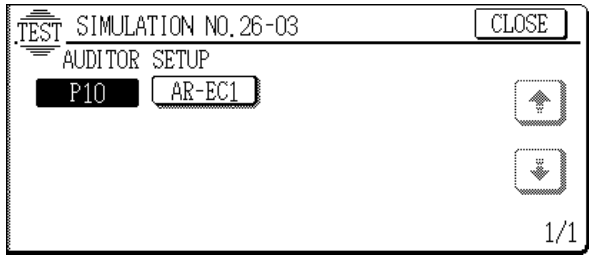
[AR-C250/C150] (New)

Set value	Kind
P10	Built-in auditor (Default)
AR-EC1	Card auditor
VENDOR	Coin vendor (MODE 1 – 3)



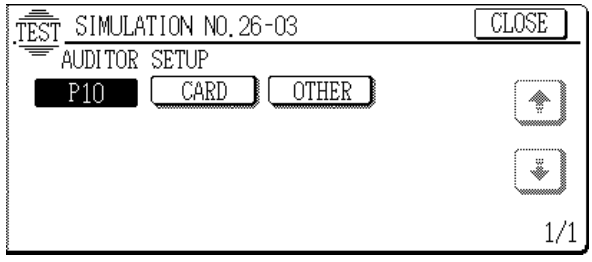
[AR-C250] (Old)

Set value	Kind
P10	Built-in auditor mode (Default)
AR-EC1	Card auditor



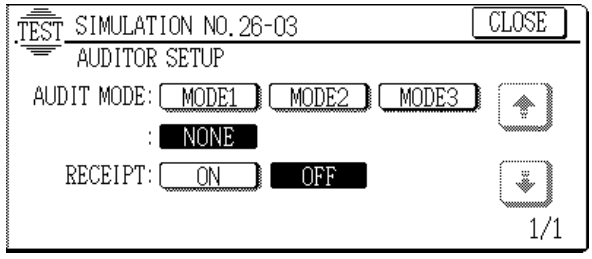
[AR-C150] (Old)

Set value	Connected option
P10	Built-in auditor mode (Default)
CARD	Card auditor
OTHER	Others



[AR-C100]

Item	Set value	Kind	Default value
AUDIT MODE	1	Coin vendor (Set time waiting)	3
	2	Coin vendor (Auto clear)	
	3	Coin vendor (Immediate clear)	
	4	Simple counter	
RECEIPT	0	Receipt not displayed	0
	1	Receipt displayed	



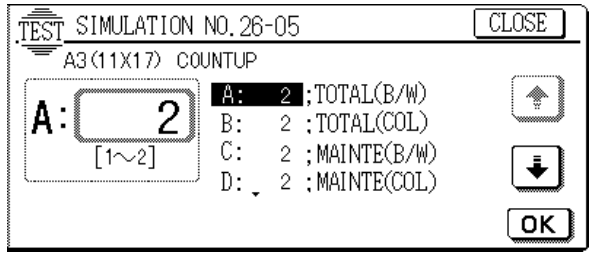
26 - 5

Purpose	Setting
Function (Purpose)	Used to set the count mode of the total counter, the developer counter, and the maintenance counter.
Item	Specifications Counter
Operation/ Procedure	Used to set the single count-up or double count-up for the total counter, the maintenance counter, and the developer counter when printing is performed with A3, 11 × 17" paper,

1. Select the kind of the counter with [↑] and [↓] key.
2. Enter "1" or "2" with the 10-key pad and press the [OK] key.
   1 : Single count
   2 : Double count

Item	Content	Upper limit	Lower limit	Default value
A	Total counter (B/W)	2	1	1 (AR-C100) 2 (AR-C150/ C250)
B	Total counter (Color)	2	1	1 (AR-C100) 2 (AR-C150/ C250))
C	Maintenance counter (B/W)	2	1	2
D	Maintenance counter (Color)	2	1	2
E	Developer counter (B/W)	2	1	2
F	Developer counter (Color)	2	1	2

Item	Set value	Content
A	1	Total counter (B/W) A3 up quantity 1
	2	Total counter (B/W) A3 up quantity 2
B	1	Total counter (Color) A3 up quantity 1
	2	Total counter (Color) A3 up quantity 2
C	1	Maintenance counter (B/W) A3 up quantity 1
	2	Maintenance counter (B/W) A3 up quantity 2
D	1	Maintenance counter (Color) A3 up quantity 1
	2	Maintenance counter (Color) A3 up quantity 2
E	1	Developer counter (B/W) A3 up quantity 1
	2	Developer counter (B/W) A3 up quantity 2
F	1	Developer counter (Color) A3 up quantity 1
	2	Developer counter (Color) A3 up quantity 2



26 - 6

Purpose	Setting
Function (Purpose)	1) Used to set the specifications (paper, fixed copy magnification ratio, machine operations in case of an image (process) correction error) according to the destination. (AR-C150/C250) 2) Used to set the user logo. (AR-C100 only)
Item	Specifications Destination

Operation/ Procedure

U.S.A.	United States of America
Canada	Canada
Inch	Inch series, other destinations
Japan	Japan
AB_B	AB series (B5 detection) other destinations
Europe	Europe
U.K.	United Kingdom
Aus.	Australia
AB_A	AB series (A5 detection) other destinations

* When the destination is changed with SIM 26-6, the following data are also changed.

(AR-C150)

SIM No.	Content	Set value								
		U.S.A.	Canada	Inch	Japan	AB_B	Europe	U.K.	Aus.	AB_A
SIM26-02	Manual feed paper kind display	2	2	2	0	1	1	1	1	1
SIM26-02	LEGAL set value	0	0	0	0	0	0	0	1	0
SIM26-28	AC power voltage	120	120	120	100	100	230	230	230	230
SIM26-30	CE mark Enable/Disable	0	0	0	0	0	1	1	1	1
SIM26-52	White paper exit count up	1	1	1	0	1	1	1	0	1
SIM43-1A	Normal mode control temperature (HL1)	180	180	180	170	170	180	180	180	180
SIM43-1B	Normal mode control temperature (HL2)	135	135	135	125	125	135	135	135	135
SIM43-1C	Ready state control temperature (HL1)	187	187	187	177	177	187	187	187	187
SIM43-1D	Ready state control temperature (HL2)	142	142	142	132	132	142	142	142	142
SIM26-55	Priority to fusing over image quality in color copy with heavy paper Enable/Disable	1	1	2	2	2	2	2	2	2

(AR-C250)

SIM No.	Content	Set value								
		U.S.A.	Canada	Inch	Japan	AB_B	Europe	U.K.	Aus.	AB_A
SIM26-02	Manual feed paper kind display	2	2	2	0	1	1	1	1	1
SIM26-02	LEGAL set value	0	0	0	0	0	0	0	1	0
SIM26-28	AC power voltage	120	120	120	100	100	230	230	230	230
SIM26-30	CE mark Enable/Disable	0	0	0	0	0	1	1	1	1
SIM26-52	White paper exit count up	1	1	1	0	1	1	1	0	1
SIM26-55	Priority to fusing over image quality in color copy with heavy paper Enable/Disable	1	1	2	2	2	2	2	2	2
SIM48-6C	Fusing motor speed correction value (L)	40	40	40	50	50	40	40	40	40
SIM48-6D	Fusing motor speed correction value (S)	40	40	40	45	45	40	40	40	40
SIM43-1A	Normal mode (HL1)	170	170	170	170	170	170	170	170	170
SIM43-1B	Normal mode (HL2)	125	125	125	140	140	125	125	125	125
SIM43-1C	Ready state (HL1)	177	177	177	177	177	177	177	177	177
SIM43-1D	Ready state (HL2)	132	132	132	140	140	132	132	132	132
SIM43-1E	Energy-save mode (HL1)	136	136	136	136	136	136	136	136	136
SIM43-1F	Reset from the pre-heat mode (HL1)	148	148	148	148	148	148	148	148	148
SIM43-1I	Heavy paper mode 1	200	200	200	200	200	200	200	200	200
SIM43-1J	Heavy paper mode 2	155	155	155	155	155	155	155	155	155

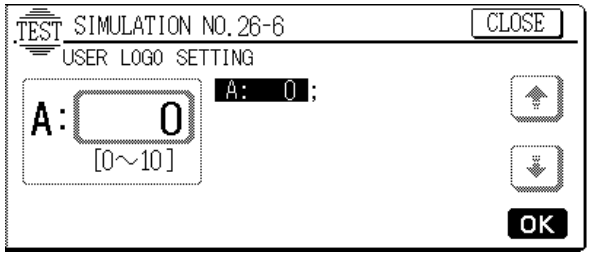
AR-C100

User logo setting

Select the desired logo and press the [OK] key. (Logo displayed on the LCD)

Item	Content	Upper limit	Lower limit	Default value
A	User logo setting	10	0	0

Item	Set value	Content
A	0	Without logo
	1	Family mart
	2	Sunkus
	3 – 10	Without logo

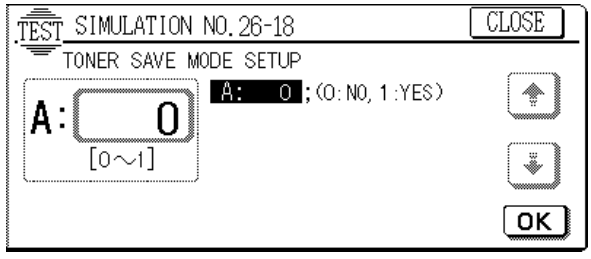


26 - 18

Purpose	Setting
Function (Purpose)	Used to set YES/NO of toner save operation. (This simulation is valid only for Japan and UK versions. It depends on Sim 26-6 (Destination) setting. For the other destinations, the same setting can be made by the user program P22. (Effective only in the monochrome copy mode)
Item	Specifications Operation mode (Common)
Operation/ Procedure	Enter the code number corresponding to the condition (the toner save YES/NO) with the 10-key and press the [OK] Key.

Item	Content	Upper limit	Lower limit	Default value
A	Toner save mode inhibited	1	0	0

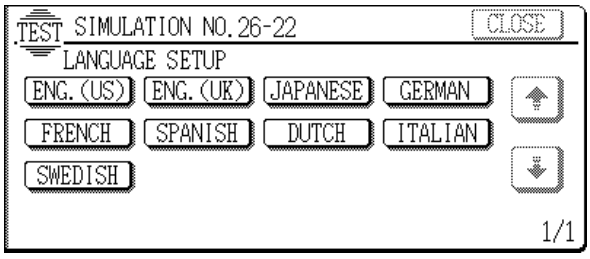
Item	Set value	Content
A	0	Toner save mode allowed
	1	Toner save mode inhibited



26 - 22

Purpose	Setting
Function (Purpose)	Used to set the specification (language) for the destination. (AR-C150/C250)
Item	Specifications Language
Operation/ Procedure	The language stored in the flash ROM (OPW PWB) is displayed.

Display	Language
ENG.(US)	English (US)
ENG.(UK)	English (UK)
JAPANESE	Japanese
GERMAN	German
FRENCH	French
SPANISH	Spanish
DUTCH	Dutch
ITALIAN	Italian
SWEDISH	Swedish

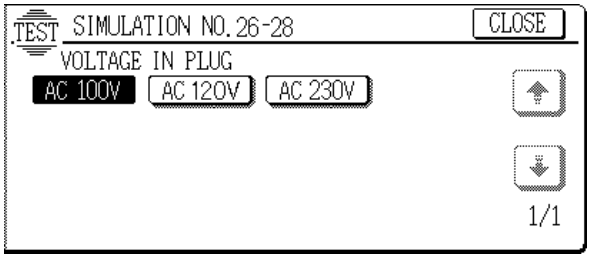


26 - 28

Purpose	Setting
Function (Purpose)	Used to set the AC power voltage. (For control of the fusing section heater lamp)
Section	Power supply (DC/AC/High)
Item	Operation
Operation/ Procedure	Select the mode corresponding to the AC power voltage. (This is to supply the proper fusing heater lamp power.)

[AC100V] 100V system
[AC120V] 120V system
[AC230V] 200V system

(Default value: AC100V)



26 - 30

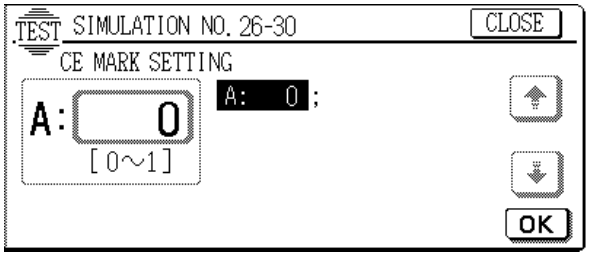
Purpose	Setting	
Function (Purpose)	Used to set the CE mark complying operation mode. (Conforms to the soft start when driving the fusing heater lamp.)	
Section	Fixing (Fusing)	
Item	Specifications	Operation mode (Common)
Operation/ Procedure	Used to set the operation of the heater lamp slow up control as CE mark standard complying operation.	

Enter the number corresponding to the operation mode with the 10-key and press the [OK] key.

0: Normal operation heater lamp slow up control is not performed.

1: CE mark standard complying operation (Heater lamp slow up control) (Europe)

(Default value: 0)



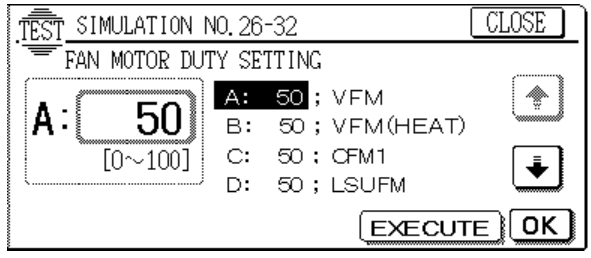
26 - 32

Purpose	Setting
Function (Purpose)	Used to set the fan rotating speed (low speed).
Item	Operation
Operation/ Procedure	1. Select the fan motor whose speed is to be adjusted with [↑] and [↓] keys and press the [OK] key.

2. Enter the adjustment value with the 10-key.
3. Press the [OK] key.

The adjustment value entered in procedure 2 is set.
In the fan motor low speed rotation mode (ready condition), the rotating speed is controlled with this adjustment value.
The adjustment value means PWM duty %.

		Default value
VFM	: Exhaust fan motor 1	15
VFM (HEAT)	: Exhaust fan motor 1 (Pre-heating)	15
CFM1	: Optical cooling fan motor 1	0
LSUFM	: LSU cooling fan motor	15



26 - 35

Purpose	Setting
Function (Purpose)	Used to set whether the trouble history display by SIM 22-4 is displayed as one trouble or as the accumulated number of continuous troubles when two or more troubles of same kind occur continuously.
Item	Specifications
Operation/ Procedure	Used to set whether the trouble history display by SIM 22-4 is displayed as one trouble or as the accumulated number of continuous troubles when two or more troubles of same kind occur continuously.

Select the number corresponding to the display mode with the 10-key and press the [OK] key.

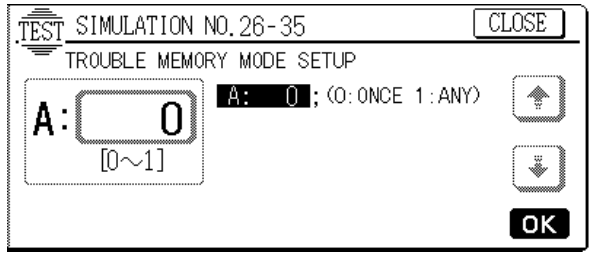
1: The trouble history display by SIM 22-4 is displayed as it is when two or more troubles occur continuously.

0: The trouble history display by SIM 22-4 is displayed as one trouble when two or more troubles occur continuously.

Default: 0

Item	Content	Upper limit	Lower limit	Default value
A	Trouble memory mode setup	1	0	0

Item	Set value	Content
A	0	Enabled to write two or more troubles
	1	Disabled to write two or more troubles



26 - 45

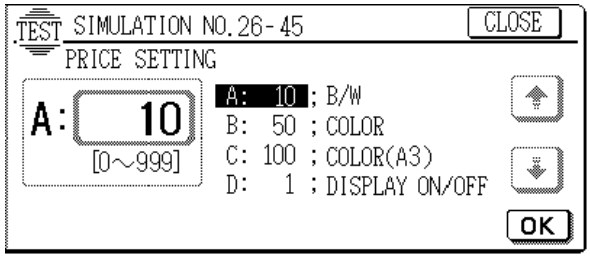
Purpose	Setting
Function (Purpose)	Used to set the copy charge. (AR-C100 only)
Item	Specifications Others
Operation/ Procedure	1. Select the copy mode with [↑] and [↓] keys. 2. Enter the charge amount with the 10-key.

3. Press the [OK] key

(Note) This simulation is to display the charge amount. The set value of this simulation must be the same as the actual charge amount of copy.

Item	Content	Upper limit value	Lower limit value	Default value
A	B/W copy charge setting	999	0	10
B	Color copy charge setting	999	0	50
C	Color copy charge setting (A3)	999	0	100
D	Charge display setting	1	0	1

Item	Set value	Content
A	10	B/W copy charge (¥10/sheet)
B	50	Color copy charge (¥50/sheet)
C	100	Color copy charge (A3) (¥100/sheet)
D	1	Copy charge is displayed on the money entry menu.
	0	Copy charge is not displayed on the money entry menu.



26 - 52

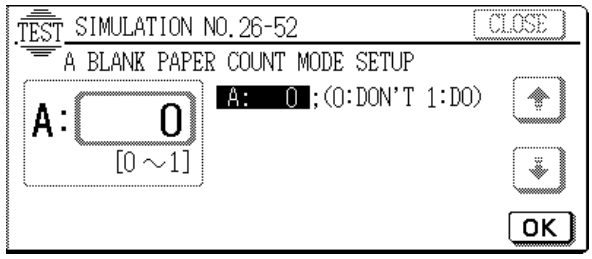
Purpose	Setting
Function (Purpose)	Used to set YES/NO of count up of non-copy paper (cover or insertion paper).
Item	Specification Operation mode
Operation/ Procedure	1. Enter the set value corresponding to the operation mode with the 10-key.

2. Press the [OK] key.

Set value	Content	Default value
0	Non-print paper is counted up.	Japan, Australia: 0
1	Non-print paper is not counted up.	Others: 1

When the set value is "1" this counter counts up non-printed paper.

Copying	Interruption copying	Self printing	Printer
Copy counter (Black/white) (Department counter (Black/white))	Copy counter (Black/white) (Department counter (Black/white))	Self print counter (Black/White)	Print counter (Black/White)
Copy counter (Color) (Department counter (color))	Copy counter (Color) (Department counter (color))	Self print counter (Color)	Printer counter (Color)



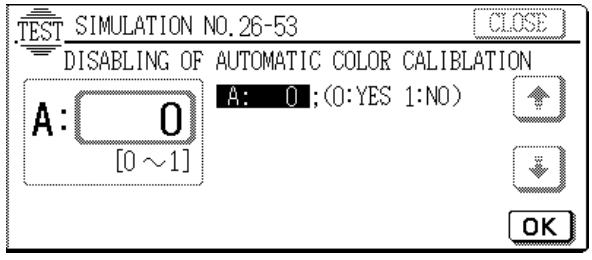
26 - 53

Purpose	Setting
Function (Purpose)	Used by the user to set Enable/Disable auto color calibration (auto adjustment of color balance and density)
Item	Specifications Operation mode
Operation/ Procedure	1. Select Enable or Disable with the 10-key. Disable 0: YES Enable 1: NO

2. Press the [OK] key.

Set value	Content	Default value
0	Disables auto color calibration (auto adjustment of copy color balance and density).	0 (AR-C150) 1 (AR-C250)
1	Enables auto color calibration (auto adjustment of copy color balance and density).	

When set to "0" (Disable), the menu of user auto color calibration (auto adjustment of copy color balance and density) is not displayed in the user program mode.

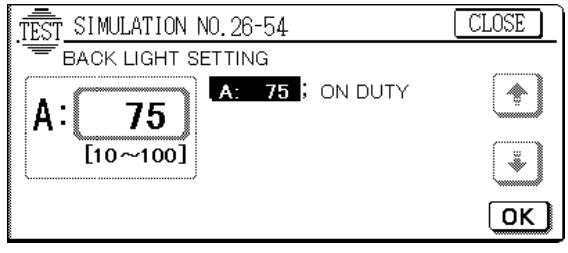


26 - 54

Purpose	Adjustment
Function (Purpose)	Used to adjust the brightness of LCD display.
Section	LCD display
Item	Operation
Operation/ Procedure	1. Enter the adjustment value with the 10-key. 2. Press the OK key.

Set value: 10 ↔ 100 Default (75)

Brightness: Dark Light



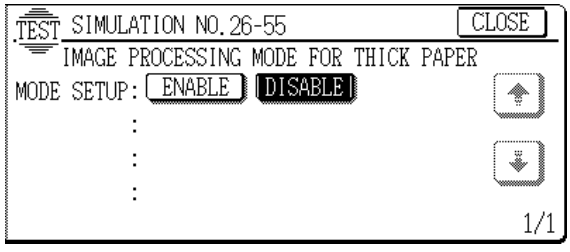
26 - 55

Purpose	Setting
Function (Purpose)	Used to set the fusing capability (image process) in the heavy paper mode. (AR-C150) Used to select the gamma characteristics in the color copy mode. (AR-C250)
Item	Operation
Operation/ Procedure	(AR-C150) Press the ENABLE or the DISABLE key to set. This simulation is used to give priority to the fusing capability over the image quality in color copy with heavy paper.

The quantity of black toner which forms images on the paper is reduced in the image process to have better fusing.
It is advisable to use this setting when poor fusing results from color copy with heavy paper.

When ENABLE (priority to the fusing capability over image quality) is selected, the black density is slightly reduced to shift the color phase. Normally set to DISABLE.

Setup	Operation/Effect	Default
ENABLE	K toner is reduced and the black reproduction is supplemented by Y/M/C toner in image process./Fusing capability is increased when heavy paper is used.	U.S.A./CANADA
DISABLE	Normal image process	Except for U.S.A./CANADA



* In some AR-C100/C150 machines with an old ROM version, this simulation is added from the middle of the production.
In the AR-C100/C150 machines with an old ROM version, upgrading of the ROM version allows to perform this simulation.

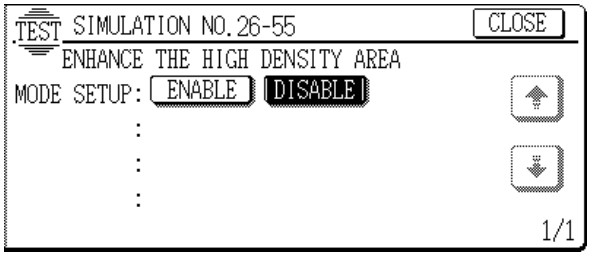
PCU MAIN PWB	Flash ROM	later than 5.07
OPERATION PWB	Flash ROM	later than 5.05
ICU MAIN PWB	Flash ROM	later than 5.09

(AR-C250)

Press the ENABLE / DISABLE key to select.

This is used to set the order of priority between sharpness and gradation in the color copy mode. Setup is made by changing the gamma in the high density area.

Setup	Operation/Effect	Default
ENABLE	The contrast in the color copy mode is increased. (Priority is given to sharpness.)	UK
DISABLE	Normal gamma (Priority is given to gradation.)	Except for UK



27

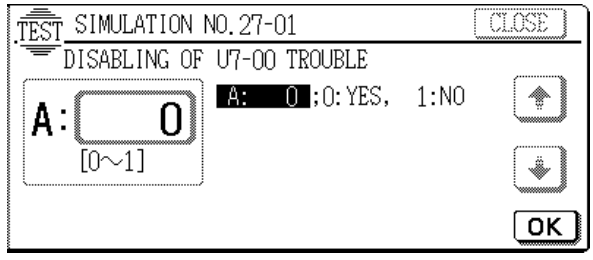
27 - 1

Purpose	Setting
Function (Purpose)	Used to set the specifications for operations in case of communication trouble between the host computer and MODEM (machine side). (When communication trouble occurs between the host computer MODEM and the machine, the self diag display (U7-00) is printed and setting for inhibition of print or not is made.)
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Specifications — Operation mode (Common)
Operation/ Procedure	Enter the code number corresponding to the operation mode with the 10-key and press the [OK] key. Used to set Enable/Disable of U7-00 trouble detection.

Set value	Content	Default value
0	U7-00 trouble detection is disabled. (Default)	0
1	U7-00 trouble detection is enabled.	

0: Though communication trouble occurs between the host computer and the MODEM (machine side), the operation of the machine is not affected.

1: When communication trouble occurs between the host computer and the MODEM (copier side), the self diag display (U7-00) id shown and printing is inhibited.



27 - 2

Purpose	Setting
Function (Purpose)	Used to set or change the host computer/MODEM number. (This setting is required when a communication is made between the copier and the computer through MODEM.)
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Data — User data
Operation/ Procedure	1. Select the PC/MODEM(HOST#/TEL#) to be set or changed. (The selected key is highlighted.)

2. Press the [OK] key.
The key is highlighted and inquiring of the present set number of the selected PC/MODEM is made to the host computer.

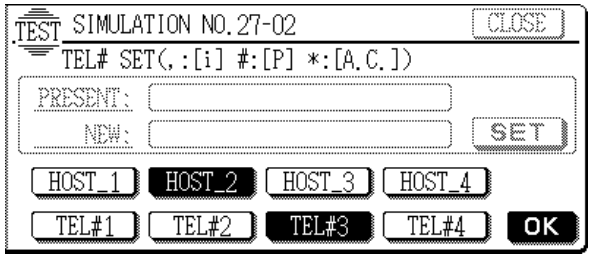
(When the number is supplied from the host normally.)

The present set number is displayed in the column of PRESENT (or no display is made if not registered) and the [SET] key at the upper right returns from the gray display to the normal display.

(In case of a trouble)

"Failed (U7-00)" is displayed in the column of PRESENT and the [OK] key at the lower right returns from the highlight display to the normal display.

3. When changing the number, enter the new number (max. 24 digits) with the 10-key and the following keys.
   # : [P]((program) key
   * : [AUDIT CLEAR] ((Dept. count end) key
   , : [i](Information) key
   The entered number is displayed in the column of NEW.
4. When the [SET] key at the upper right is pressed, the newly set number for the selected PC/MODEM is registered.
   (When registered normally)
   The number displayed in the column of NEW disappears and the newly set number appears in the column of PRESENT
   (In case of a trouble)
   "Failed (U7-00)" is displayed in the column of NEW.

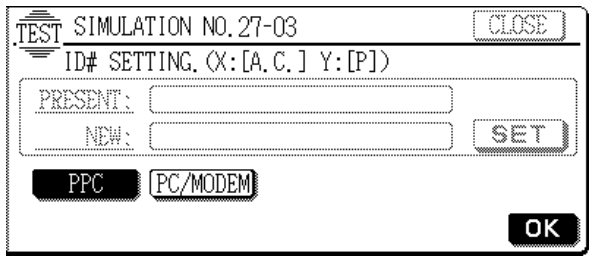


Note	To perform this setting, the host computer and the machine must be connected through MODEM.

27 - 3

Purpose	Setting
Function (Purpose)	Used to set and change the ID numbers of the copier, the host computer/MODEM. (This setting is required when a communication is made between the copier and the computer through MODEM.)
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Data Communication
Operation/ Procedure	1. Select between PPC(copier) and PC/MODEM(host). The key is highlighted.

2. Press the [OK] key at the lower right. (The key is highlighted and an inquiry of the selected ID No, to the host.)
   (When the number is supplied from the host normally)
   The present set number is displayed in the column of PRESENT (or no display is made if not registered) and the [SET] key at the upper right returns from the gray display to the normal display.
   (In case of a trouble)
   "Failed (U7-00)" is displayed in the column of PRESENT and the [OK] key at the lower right returns from the high-light display to the normal display.
3. When changing the number, enter the new number (max. 24 digits) with the 10-key and the following keys.
   X: [P](program) key
   Y: [AUDIT CLEAR](dept. count end) key
   The entered number is displayed in the column of "NEW"
4. When the [SET] key at the upper right is pressed, the newly set ID number of the selected PC/MODEM is registered on the host side.
   (When registered normally)
   The number in the column of NEW disappears and the newly set and registered number appears in the column of PRESENT.
   (In case of a trouble)
   "Failed (U7-00)" is displayed in the column of NEW

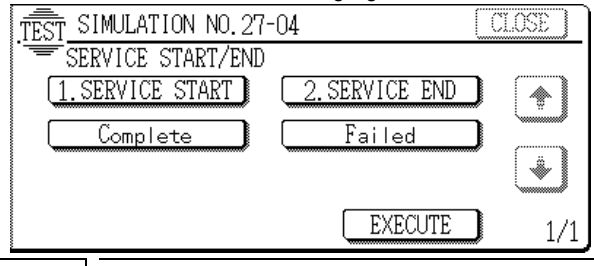


Note	To perform this setting, the host computer and the machine must be connected through MODEM.

27 - 4

Purpose	Setting
Function (Purpose)	Used to enter the service start time and service end time for management of servicing. (The data can be checked with the host computer.)
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Data Communication
Operation/ Procedure	1. Press the [SERVICE START] key when starting servicing. The key is highlighted.

2. Press the [EXECUTE] key.
   The key is highlighted and the data on service start time is sent to the host.
3. Press the [SERVICE END] key after completion of servicing.
   The key is highlighted.
4. Press the [EXECUTE] key.
   The key is highlighted and the data on service end time is sent to the host.
   When the host receives the data normally,"Complete"is highlighted.
   In case of a trouble,"Failed"is highlighted.

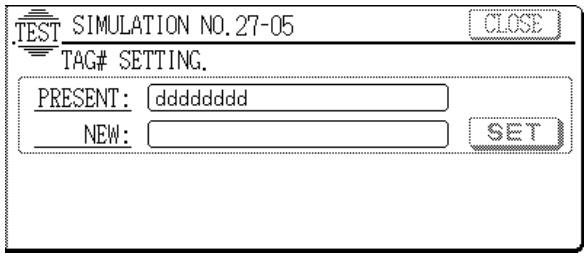


Note	To perform this setting, the host computer and the machine must be connected through MODEM.

27 - 5

Purpose	Setting
Function (Purpose)	Used to enter the machine TAG No. (This function allows to check the TAG No. of the machine with the host computer.)
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Data User data
Operation/ Procedure	1. When entering the tag No. newly or changing the tag No. enter the value (max. 8 digits) with the 10-key. The entered number is displayed in the column of "NEW"

2. Press the [SET] key.
   The new tag No. entered in procedure 1 is set.
   It is advisable to enter the machine's serial No. for machine management and servicing.

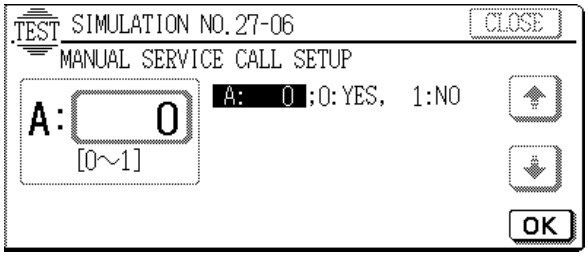


Note	To perform this setting, the host computer and the machine must be connected through MODEM.

27 - 6

Purpose	Setting
Function (Purpose)	Used to set ON/OFF of service call sending to the service center by use of RIC when trouble occurred in the machine. (The service call is not sent automatically, but sent manually.)
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Specifications Others
Operation/ Procedure	Enter the value corresponding to the set content and press the [OK] key. Manual service call Enable/Disable setting can be made.

Set value	Set content	Default value
0	Manual service call enable (Default)	0
1	Manual service call disable	



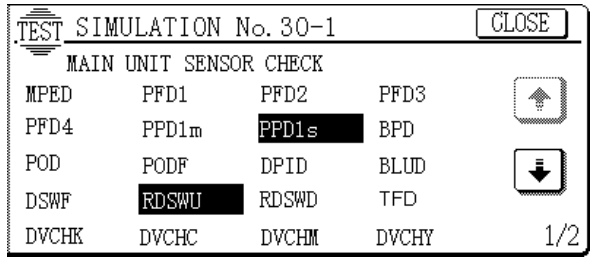
30

30 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of sensors and detectors in the paper feed, paper transport, paper exit sections and the related circuits.
Item	Operation
Operation/ Procedure	The active sensors and detectors are highlighted.

Sensor ON: → Sensor name highlighted.
Sensor OFF: → Sensor name normally displayed.

MPED Manual feed paper empty detection
PFD1 Cassette 1 paper feed detection
PFD2 Cassette 2 paper feed detection
PFD3 Cassette 3 paper feed detection
PFD4 Cassette 4 paper feed detection
PPD1m PRM front paper pass detection (Main side)
PPD1s PRM front paper pass detection (Sub side)
BPD Fusing pre-detection
POD Copier paper exit detection
DPID ADU paper feed detection
BLUD Belt U/D detection
DSWF Front door open/close detection
RDSWU Upper paper feed section door open detection
RDSWD Lower paper feed section door open detection
TFD Waste toner full detection
DVCHK Developing unit not-installed detection (K)
DVCHC Developing unit not-installed detection (C)
DVCHM Developing unit not-installed detection (M)
DVCHY Developing unit not-installed detection (Y)
BELTCH Belt pull out detection
HM_RE Fusing motor rotary encoder
DDSW Paper exit door open detection
ADUCH ADU pull out detection
OEMP Oil remaining quantity detection



30 - 2

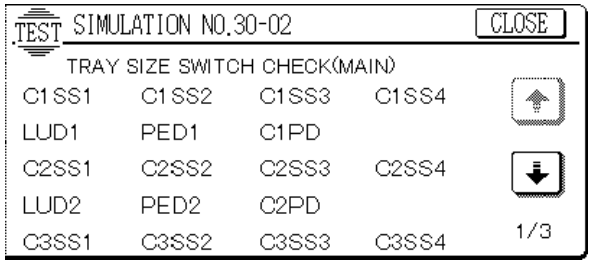
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of sensors and detectors in the paper feed section and the related circuits. (The operation of the paper feed sensors and detectors can be monitored with the LCD display.)
Section	Paper transport
Item	Operation
Operation/ Procedure	The active sensors and detectors are highlighted. Sensor ON → Sensor name highlighted.

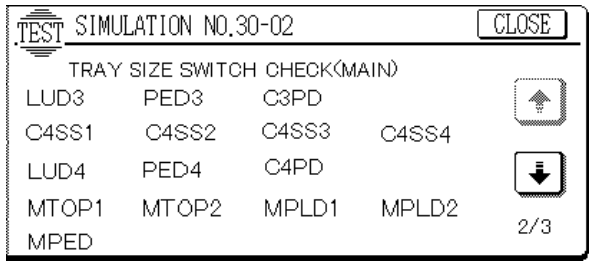
Sensor OFF → Sensor name normally displayed.

C1SS1 Copier cassette 1 paper size detection 1
C1SS2 Copier cassette 1 paper size detection 2
C1SS3 Copier cassette 1 paper size detection 3
C1SS4 Copier cassette 1 paper size detection 4
LUD1 Cassette 1 upper limit detection
PED1 Copier cassette 1 paper detection
C1PD Copier cassette 1 remaining quantity detection 1
:
:
:
MPLD1 Manual feed paper length detection 1
MPLD2 Manual feed paper length detection 2
MTOP1 Manual feed tray length detection 1
MTOP2 Manual feed tray length detection 2
MPED Manual feed tray paper length detection

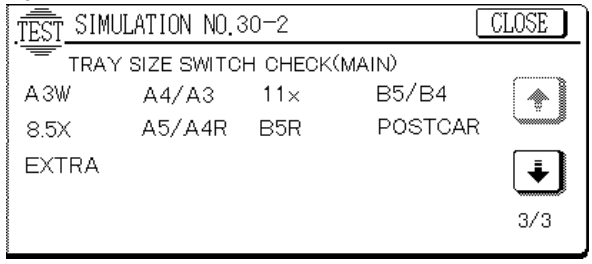
The display differs depending on the destination.

Japan	**A3W**	Manual feed tray (width only) detection size	One of these is displayed.
	A4/A3	Manual feed tray (width only) detection size	
	11x	Manual feed tray (width only) detection size	
	B5/B4	Manual feed tray (width only) detection size	
	8.5x	Manual feed tray (width only) detection size	
	A5/A4R	Manual feed tray (width only) detection size	
	B5R	Manual feed tray (width only) detection size	
	POSTCAR	Manual feed tray (width only) detection size	
	EXTRA	Manual feed tray (width only) detection size	
Inch series	**A3W**	Manual feed tray (width only) detection size	One of these is displayed.
	A4/A3	Manual feed tray (width only) detection size	
	11x	Manual feed tray (width only) detection size	
	B5/B4	Manual feed tray (width only) detection size	
	8.5x	Manual feed tray (width only) detection size	
	EXER	Manual feed tray (width only) detection size	
	A6R	Manual feed tray (width only) detection size	
	EXTRA	Manual feed tray (width only) detection size	
AB series other than Japan	**A3W**	Manual feed tray (width only) detection size	One of these is displayed.
	A4/A3	Manual feed tray (width only) detection size	
	11x	Manual feed tray (width only) detection size	
	B5/B4	Manual feed tray (width only) detection size	
	LG	Manual feed tray (width only) detection size	
	A5/A4R	Manual feed tray (width only) detection size	
	EXER	Manual feed tray (width only) detection size	
	A6R	Manual feed tray (width only) detection size	
	EXTRA	Manual feed tray (width only) detection size	

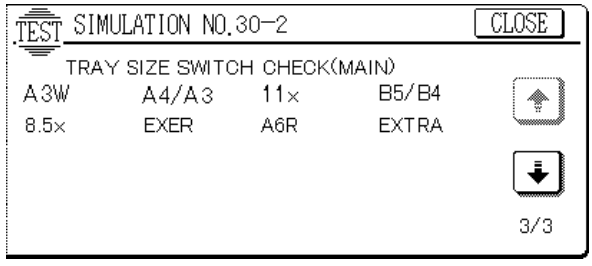




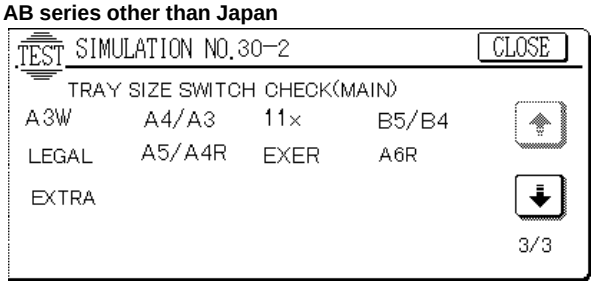
Japan



Inch



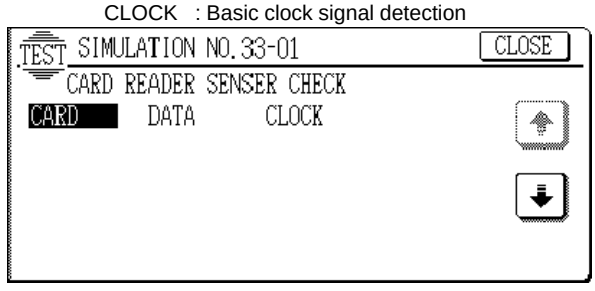
AB series other than Japan



33

33 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the card reader and the sensors and the related circuits. (The card reader sensor operation can be monitored with the LCD display.) (AR-C150/C250)
Section	Others
Item	Operation
Operation/ Procedure	CARD : Card insertion detection DATA : Card number signal detection CLOCK : Basic clock signal detection



40

40 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the manual feed tray paper size detector and the related circuit. (The operation of the manual feed tray paper size detector can be monitored with the LCD display.) (AR-C150/C250)
Section	Paper transport
Item	Operation
Operation/ Procedure	The active sensors and detectors are highlighted.

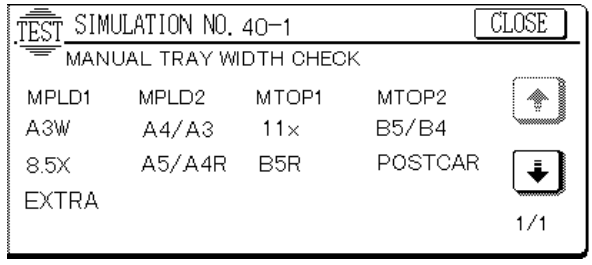
Sensor ON → Sensor name highlighted.

Sensor OFF → Sensor name normally displayed.

MPLD1 Manual feed paper length detection 1
MPLD2 Manual feed paper length detection 2
MTOP1 Manual feed tray length detection 1
MTOP2 Manual feed tray length detection 2

The display differs depending on the destination.

Japan	**A3W**	Manual feed tray (width only) detection size	One of these is displayed.
	A4/A3	Manual feed tray (width only) detection size	
	11x	Manual feed tray (width only) detection size	
	B5/B4	Manual feed tray (width only) detection size	
	8.5x	Manual feed tray (width only) detection size	
	A5/A4R	Manual feed tray (width only) detection size	
	B5R	Manual feed tray (width only) detection size	
	POSTCAR	Manual feed tray (width only) detection size	
	EXTRA	Manual feed tray (width only) detection size	
Inch series	**A3W**	Manual feed tray (width only) detection size	One of these is displayed.
	A4/A3	Manual feed tray (width only) detection size	
	11x	Manual feed tray (width only) detection size	
	B5/B4	Manual feed tray (width only) detection size	
	8.5x	Manual feed tray (width only) detection size	
	EXER	Manual feed tray (width only) detection size	
	A6R	Manual feed tray (width only) detection size	
	EXTRA	Manual feed tray (width only) detection size	
AB series other than Japan	**A3W**	Manual feed tray (width only) detection size	One of these is displayed.
	A4/A3	Manual feed tray (width only) detection size	
	11x	Manual feed tray (width only) detection size	
	B5/B4	Manual feed tray (width only) detection size	
	LG	Manual feed tray (width only) detection size	
	A5/A4R	Manual feed tray (width only) detection size	
	EXER	Manual feed tray (width only) detection size	
	A6R	Manual feed tray (width only) detection size	
	EXTRA	Manual feed tray (width only) detection size	

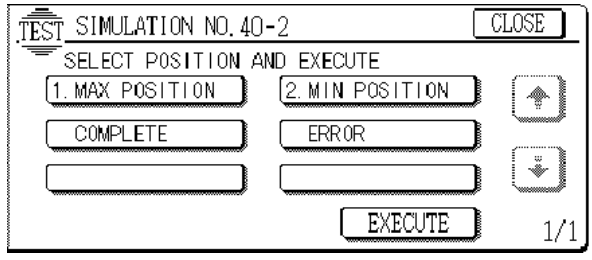


40 - 2

Purpose	Adjustment
Function (Purpose)	Used to adjust the manual feed tray paper width detector detection level. (AR-C150/C250)
Section	Paper transport
Item	Operation
Operation/ Procedure	1. Open the manual paper feed guide at maximum. 2. Press the [MAX POSITION] key.

3. Press the [EXECUTE] key.
   The [EXECUTE] key is highlighted then it returns to the normal display.
   The manual paper feed guide max. width position detection level is recognized.
4. Open the manual paper feed guide at minimum.
5. Press the [MIN POSITION] key.
6. Press the [EXECUTE] key.
   The key is highlighted then it returns to the normal display.
   The manual paper feed guide min. position detection level is recognized.

   If the above operation is not performed properly, the ERROR display is highlighted.
   If performed properly, the above data is stored and the COMPLETE is highlighted.

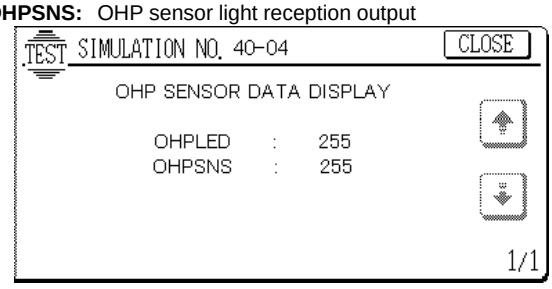


40 - 4

Purpose	Operation test/check
Function (Purpose)	Used to check the OHP sensor and its control circuit. (AR-C150/C250)
Section	Paper transport
Item	Operation
Operation/ Procedure	OHP sensor light emitting output/light reception output levels ar displayed in real time.

OHPLED: OHP sensor light emitting output

OHPSNS: OHP sensor light reception output

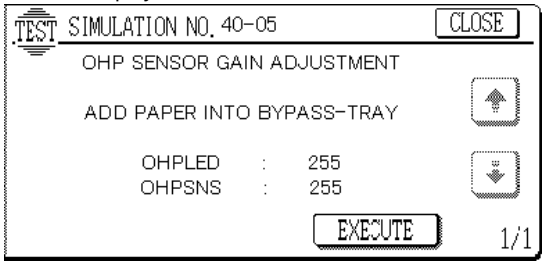


40 - 5

Purpose	Adjustment
Function (Purpose)	Used to adjust the detection level of the OHP sensor. (AR-C150/C250)
Section	Paper feed
Item	Operation
Operation/ Procedure	1. Set A4 (11 × 8.5") paper on the manual paper feed tray.

2. Press the [EXECUTE] key.

Paper on the manual paper feed tray is fed and stopped at the OHP sensor section.
The sensor LED current level is automatically adjusted to provide the specified (target) output of the OHP sensor.
After completion of the adjustment, paper is discharged and the result is displayed.
When the adjustment is completed normally, "ADJUSMENT COMPLETE" is displayed. In case of a trouble, "ADJUSTMENT ERROR" is displayed.

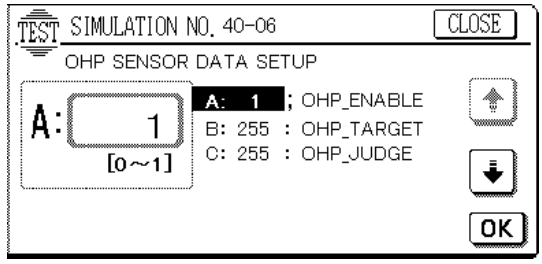


40 - 6

Purpose	Setting
Function (Purpose)	Used to set the OHP sensor adjustment parameter. (AR-C150/C250)
Section	Paper feed
Item	Operation
Operation/ Procedure	1. Select the set item with the scroll key. 2. Enter the setup parameter with the 10-key.

3. Press the [OK] key.

OHP_ENABLE : OHP sheet use enable setup
1: Enable 0: Disable
OHP_TARGET : OHP sensor adjustment target level
OHP_JUDGE : OHP paper judgement reference level
In the OHP paper judgement, this level is judged as the threshold value.



(Default value) A: 1
B: 200
C: 120

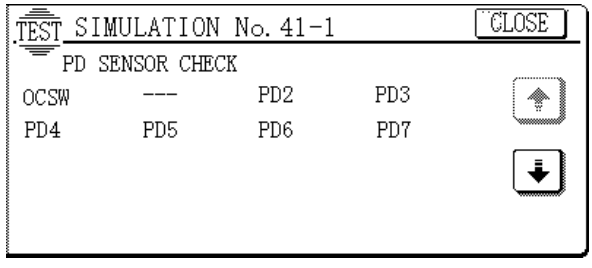
41

41 - 1

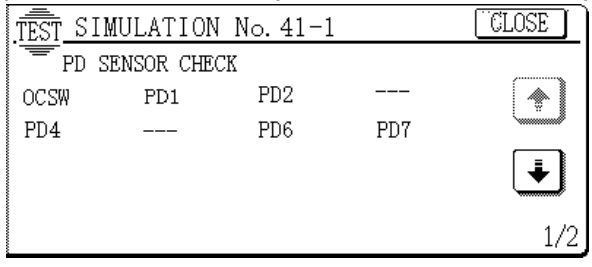
Purpose	Operation test/check/Operation data Output/ Check (Display/Print)
Function (Purpose)	Used to check the operation of the document size sensor and the related circuit. (The operation of the document size sensor can be monitored with the LCD display.)
Section	Others
Item	Operation
Operation/ Procedure	The active sensors and detectors are highlighted.

OCSW	Document cover state	Normal display: Close	Reverse display: Open
PD*	Document sensor	Normal display: Document empty	Reverse display: Document present
---	No sensor	Reverse display: No sensor	

(Japan AB series)



(U.S.A., Canada, Inch, Europe, U.K., Aus., Other AB series)



The operation of this simulation differs depending on the setting of the destination (SIM 26-6).

SIM26-6 setting

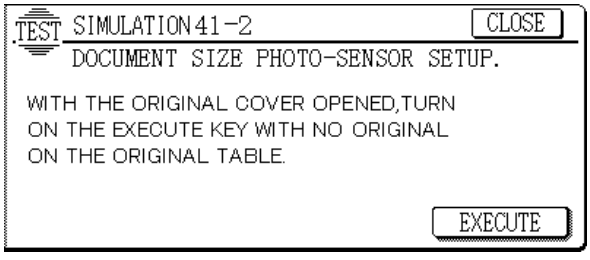
Destination (Country information)		INCH/AB series
U.S.A.	U.S.A.	INCH
Canada	Canada	INCH
Inch series, other destinations	Inch	INCH
Japan	Japan	AB
AB series (B5 detection), other destinations	AB_B	AB
Europe	Europe	AB
United Kingdom	U.K.	AB
Australia	Aus.	AB
AB series (A5 detection), other destinations	AB_A	AB

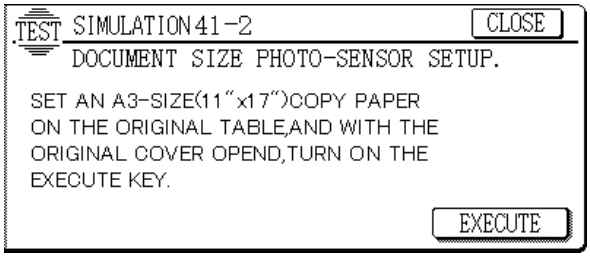
41 - 2

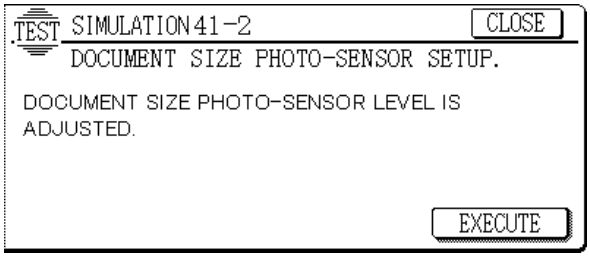
Purpose	Adjustment
Function (Purpose)	Used to adjust the document size sensor detection level.
Section	Others
Item	Operation
Operation/ Procedure	1. Open the original table, and press the [EXECUTE] key without original on the original table. The sensor level setting with no original on the table is performed.

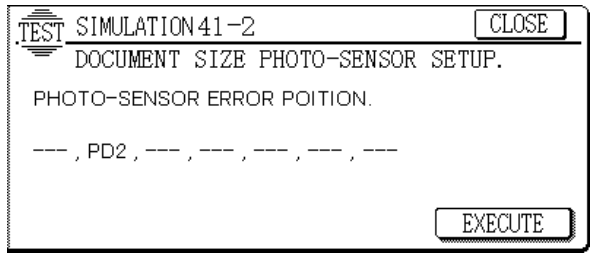
2. Set an A3 paper (11" × 17") and press the [EXECUTE] key. The sensor level setting with original is performed.

(Default value: 128)









41 - 3

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the document size sensor and the related circuit. (The document size sensor output level can be monitored with the LCD display.)
Section	Others
Item	Operation
Operation/ Procedure	The detection output level of each sensor is displayed in real time.

* The value in [ ] shown at the right of each sensor name is the threshold value.

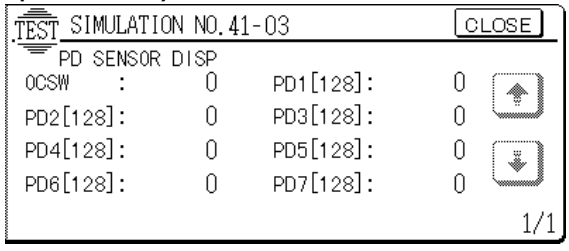
OCSW Document cover state

Data	Document cover state
0	Cover close
1	Cover open

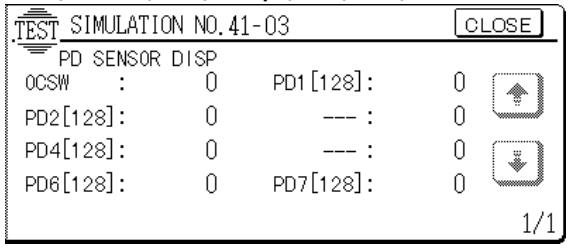
PD* Document sensor [0 – 255]

--- No sensor [0]

(Japan AB series)



(U.S.A., Canada, Inch, Europe, U.K., Aus., Other AB series)



43

43 - 1

Purpose	Setting
Function (Purpose)	Used to set the fusing temperature in each operation mode.
Section	Fixing (Fusing)
Item	Operation
Operation/ Procedure	1. Select the kind of lamps and the operation mode with [↑], [↓] keys. 2. Enter the set value with the 10-key.

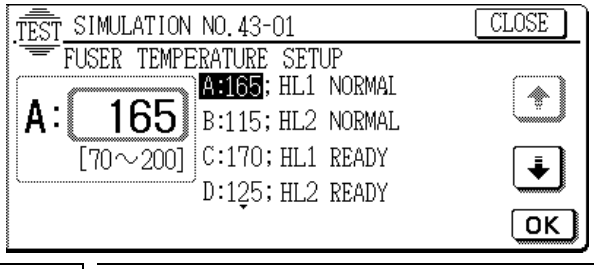
3. Press the [OK] key to set the fusing temperature set in procedure 2.

(AR-C100/C150)

Display	Content	Set range	Set value									NOTE
			U.S.A	Canada	Inch	Japan	AB_B	Europe	U.K	Aus.	AB_A	
A: HL1 PLAIN PAPER	Normal mode contrl temperature (HL1)	70 to 200	180	180	180	170	170	180	180	180	180	
B: HL2 PLAIN PAPER	Normal mode contrl temperature (HL2)	70 to 200	135	135	135	125	125	135	135	135	135	
C: HL1 READY	Ready state control temperature (H1)	70 to 200	187	187	187	177	177	187	187	187	187	
D: HL2 READY	Ready state control temperature (H2)	70 to 200	142	142	142	132	132	142	142	142	142	
E: HL1 E_STAR	Energy save mode control temperature (HL1)	70 to 200	140	140	140	140 (137)	140	140	140	140	140	( ) AR-C100
F: HL1 PRE_BK	Control temperarture (HL1) when resetting to B/W from preheat	70 to 200	155	155	155	155 (152)	155	155	155	155	155	( ) AR-C100
G: HL1 HEAVYPAPER	Heavy paper mode control temperature (HL1)	70 to 200	200	200	200	200	200	200	200	200	200	AR-C150 only
H: HL2 HEAVYPAPER	Heavy paper mode control temperature (HL2)	70 to 200	155	155	155	155	155	155	155	155	155	AR-C150 only
I: HL1 TRANSPARENCY	OHP mode control temperature (HL1)	70 to 200	180	180	180	180	180	180	180	180	180	AR-C150 only
J: HL2 TRANSPARENCY	OHP mode control temperature (HL2)	70 to 200	175	175	175	175	175	175	175	175	175	AR-C150 only

(AR-C250)

Display	Content	Set range	Set value									NOTE
			U.S.A	Canada	Inch	Japan	AB_B	Europe	U.K	Aus.	AB_A	
A: HL1 PLAIN PAPER	Normal mode contrl temperature (HL1)	70 to 200	170	170	170	170	170	170	170	170	170	
B: HL2 PLAIN PAPER	Normal mode contrl temperature (HL2)	70 to 200	125	125	125	140	140	125	125	125	125	
C: HL1 READY	Ready state control temperature (H1)	70 to 200	177	177	177	177	177	177	177	177	177	
D: HL2 READY	Ready state control temperature (H2)	70 to 200	132	132	132	140	140	132	132	132	132	
E: HL1 E_STAR	Energy save mode control temperature (HL1)	70 to 200	136	136	136	136	136	136	136	136	136	
F: HL1 PRE-BK	Control temperarture (HL1) when resetting to B/W from preheat	70 to 200	148	148	148	148	148	148	148	148	148	
G: HL1 HEAVYPAPER1	Heavy paper 1 mode control temperature (HL1)	70 to 210	185	185	185	185	185	185	185	185	185	
H: HL2 HEAVYPAPER1	Heavy paper 1 mode control temperature (HL2)	70 to 200	155	155	155	155	155	155	155	155	155	
I: HL1 HEAVYPAPER2	Heavy paper 2 mode control temperature (HL1)	70 to 210	200	200	200	200	200	200	200	200	200	
J: HL2 HEAVYPAPER2	Heavy paper 2 mode control temperature (HL2)	70 to 200	155	155	155	155	155	155	155	155	155	
K: HL1 TRANSPARENCY	OHP mode control temperature (HL1)	70 to 200	180	180	180	180	180	180	180	180	180	
L: HL2 TRANSPARENCY	OHP mode control temperature (HL2)	70 to 200	175	175	175	175	175	175	175	175	175	



Note | Never set to another value than the specified value (default). (Otherwise, a trouble may occur.)

43 - 7

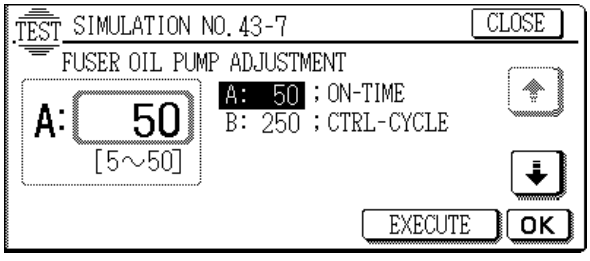
Purpose	Adjustment
Function (Purpose)	Used to adjust the fusing oil supply amount. (Adjustment of oil motor ON time and oil motor ON interval)
Section	Fixing (Fusing)
Item	Operation
Operation/ Procedure	1. Select the adjustment item with [↑], [↓] keys. **A: ON-TIME** Fusing oil pump ON time [ms] **B: CTRL-CYCLE** Fusing oil pump control cycle [ms] 2. Enter the set value with the 10-key. 3. Press the [OK] key. When the [EXECUTE] key is pressed, it is highlighted and the pump is operated with the set content. When the [EXECUTE] key is pressed again, the display returns to the normal display and the pump is stopped.

	Range [ms]	Default value
ON-TIME	5 – 50	12
CTRL-CYCLE	17 – 250	130

(Example) When ON-TIME is 12ms and CTRL-CYCLE is 250ms, 12ms of ON and (250+50) –12ms of OFF are repeated.

Default

A: ON-TIME 12 [ms]
B: CTRL-CYCLE 130 [ms]

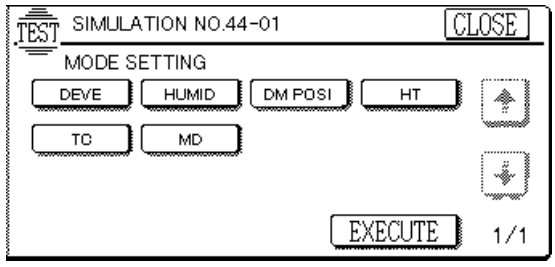


44

44 - 1

Purpose	Setting
Function (Purpose)	Used to set enable/disable of correction operations in the image forming (process) section.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Operation
Operation/ Procedure	1. Select the process item to enable the operation. 2. Press the [EXECUTE] key. (The operations of all process items must be enabled.)

DEVE: Developer life correction
HUMID: Humidity correction
DM POSI: Drum phase alignment
MD: OPC drum membrane decrease correction
TC: Transfer output correction
HT: Half tone correction



44 - 2

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the temperature sensor and the humidity sensor for correction of the image process section. (The sensor detection level can be monitored.)
Item	Operation
Operation/ Procedure	Press the [EXECUTE] key. The main motor rotates and the DM/ID gain adjustment is started. After completion of the adjustment, the [EXECUTE] key returns to the normal display and the main motor stops. At that time, each display data is displayed.

DMLEDY: Y drum sensor adjustment value
DMLEDM : M drum sensor adjustment value
DMLEDC: C drum sensor adjustment value
DMLEDK: K drum sensor adjustment value

PCLEDC: Color sensor adjustment value (LED current)
PCLEDK: Black sensor adjustment value (LED current)
P_BK_B: Belt element sense level /Black dark level
P_CY: Calibration plate sense level/Color dark level

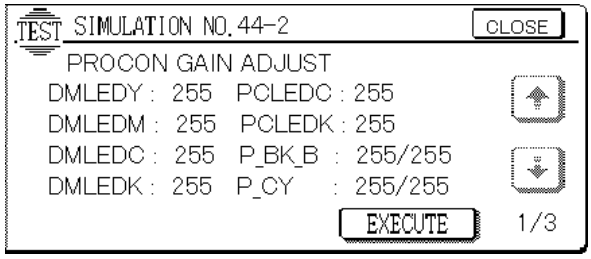
DMGNDY: Y drum element sense level/Y drum sensor dark level
DMGNDM: M drum element sense level/M drum sensor dark level
DMGNDC: C drum element sense level/C drum sensor dark level
DMGNDK: K drum element sense level/K drum sensor dark level

MARKY: Y drum mark sense level
MARKM: M drum mark sense level
MARKC: C drum mark sense level
MARKK: K drum mark sense level

MKY/GND: Y drum mark reflection ratio
= (Y drum mark sense level ∗100)/Y drum element sense level
MKM/GND: M drum mark reflection ratio
= (M drum mark sense level ∗100)/M drum element sense level
MKC/GND: C drum mark reflection ratio
= (C drum mark sense level ∗100)/C drum element sense level
MKK/GND: K drum mark reflection ratio
= (K drum mark sense level ∗100)/K drum element sense level

PCSKMAX: Belt element sense level max. value

PCSKMIN: Belt element sense level min. value
PCSKDIF: Belt element sense level difference between Max. and Min.
= (Belt element sense level max. value - Belt element sense level min. value)

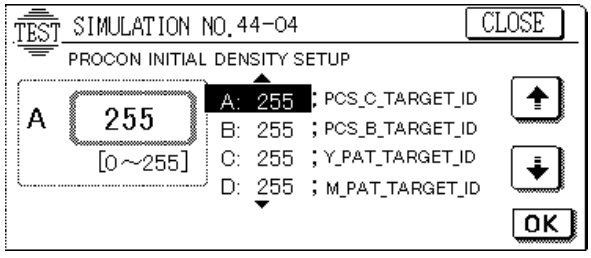


44 - 4

Purpose	Setting
Function (Purpose)	Used to set the target image (reference) density level in correction (process correction) operations in the image forming section.
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Picture quality Density
Operation/ Procedure	1. Select the adjustment item with [↑], [↓] keys. 2. Enter the set value with 10-key. (255 levels)

3. Press the [OK] key. (The value entered in procedure 2 is set.)

		Default value
Color sensor adjustment reference level	PCSS_C_TARGET_ID	102
Black sensor adjustment reference level	PCS_B_TARGET_ID	133
Yellow reference density level	Y_PAT_TARGET_ID	90
Magenta reference density level	M_PAT_TARGET_ID	100
Cyan reference density level	C_PAT_TARGET_ID	83
Black reference density level	K_PAT_TARGET_ID	15 (AR-C100/C150)
Black reference density level	K_PAT_TARGET_ID	22 (AR-C250)

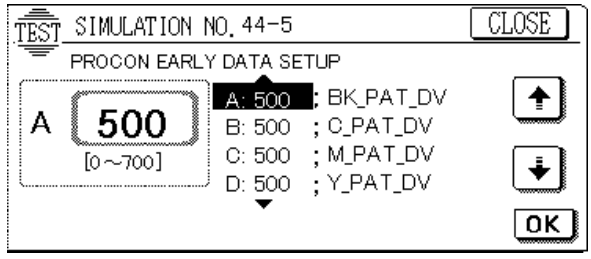


44 - 5

Purpose	Setting
Function (Purpose)	Used to set the correction start developing bias voltage in correction (process correction) operations in the image forming section.
Section	Image process (Photoconductor/ Developing/ Transfer/ Cleaning) Developer/Toner Hopper
Item	Operation
Operation/ Procedure	1. Select the parameter mode with [↑], [↓] keys. 2. Enter the parameter with the 10-key.

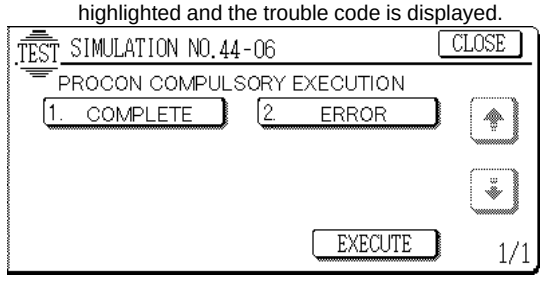
3. Press the [OK] key. (The value entered in procedure 2 is set.)
Initial developing bias voltage level during the image section correction operation
(Set to default.)

		Lower limit	Upper limit	Default value
BK_PAT_DV	Initial developing bias voltage level (Black)	0	700	325
C_PAT_DV	Initial developing bias voltage level (Cyan)	0	700	325
M_PAT_DV	Initial developing bias voltage level (Magenta)	0	700	325
Y_PAT_DV	Initial developing bias voltage level (Yellow)	0	700	325



44 - 6

Purpose	Operation test/check
Function (Purpose)	Used to forcibly execute the image forming section correction (process correction).
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Operation
Operation/ Procedure	When the [EXECUTE] key is pressed, it is highlighted and the main motor is operated and the image forming section correction is started. If the operation is normally completed, COMPLETE is displayed. If the operation is not normally completed, ERROPR is highlighted and the trouble code is displayed.



44 - 9

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the data on the image forming section correction (process correction) (corrected main charger grid voltage, the developing bias voltage, the laser power, etc, in each print mode). (This simulation allows to check if the correction operation is performed normally.)
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Data Operation data (Machine condition)
Operation/ Procedure	1. By scrolling with [↑], [↓] keys, each data of the image forming section correction result.

Page 1 – 3 G, B, DV and initial set value in each mode stored in process control

Page 4 Rotating time and the mark number of each drum

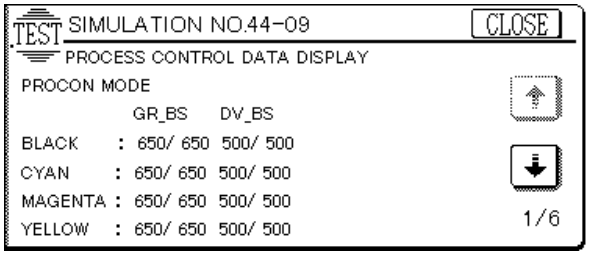
Page 5 Rotating time of each developing unit

Page 6 Humidity environment area (For transfer correction/humidity correction)

[Content]

Process control mode output

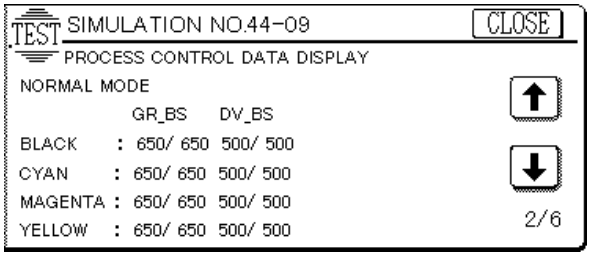
Black	GB current value/GB initial value
Cyan	GB current value/GB initial value
Magenta	GB current value/GB initial value
Yellow	GB current value/GB initial value
Black	DV current value/DV initial value
Cyan	DV current value/DV initial value
Magenta	DV current value/DV initial value
Yellow	DV current value/DV initial value



[Content]

Normal mode output

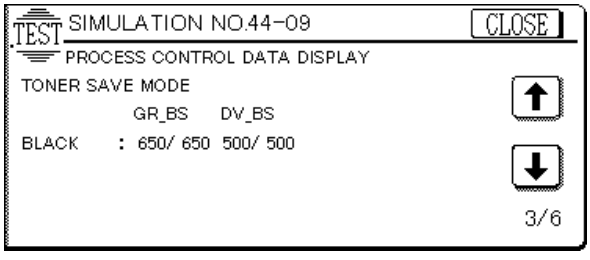
Black	GB current value/GB initial value
Cyan	GB current value/GB initial value
Magenta	GB current value/GB initial value
Yellow	GB current value/GB initial value
Black	DV current value/DV initial value
Cyan	DV current value/DV initial value
Magenta	DV current value/DV initial value
Yellow	DV current value/DV initial value



[Content]

Toner save mode output

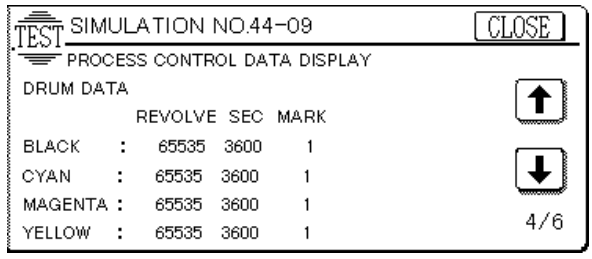
Black	GB current value/GB initial value
Black	DV current value/DV initial value



[Content]

Drum data

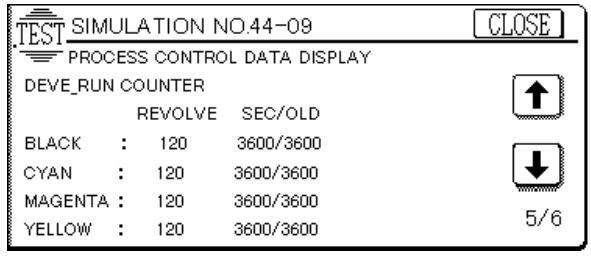
Black	Drum rotation (hour)	Drum rotation (sec)
Cyan	Drum rotation (hour)	Drum rotation (sec)
Magenta	Drum rotation (hour)	Drum rotation (sec)
Yellow	Drum rotation (hour)	Drum rotation (sec)



[Content]

Developer counter

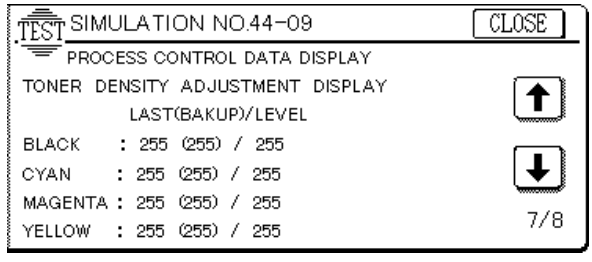
Black	Developer operating rotation (hour)	Developer operating rotation sec/Previous count up time (sec)
Cyan	Developer operating rotation (hour)	Developer operating rotation sec/Previous count up time (sec)
Magenta	Developer operating rotation (hour)	Developer operating rotation sec/Previous count up time (sec)
Yellow	Developer operating rotation (hour)	Developer operating rotation sec/Previous count up time (sec)



[Content]

Toner density data

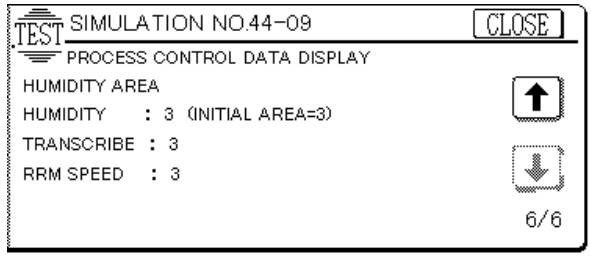
Black	final value (final value when starting)/Reference value
Cyan	final value (final value when starting)/Reference value
Magenta	final value (final value when starting)/Reference value
Yellow	final value (final value when starting)/Reference value



[Content]

Humidity environment area

Humidity	correction present area (Initial area)
Transfer	correction present area
RRM speed correction	correction present area

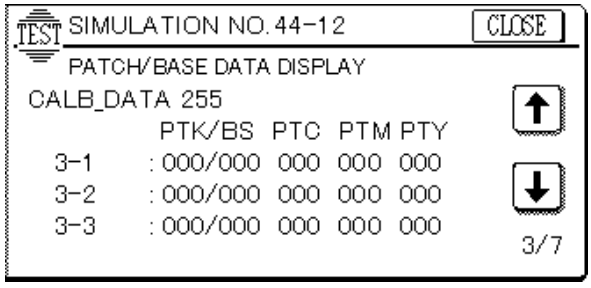


44 - 12

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the toner image patch density data in the image forming section correction (process correction). This simulation allows to check if the correction operation is performed normally.)
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Data — Operation data (Machine condition)
Operation/ Procedure	By scrolling with [↑], [↓] keys, the image forming section correction result data (batch density level) can be checked.

Reference density level: CALB_D

P1 Black PT/Black element Cyan PT Magenta PT Yellow PT
P2 Black PT/Black element Cyan PT Magenta PT Yellow PT
P3 Black PT/Black element Cyan PT Magenta PT Yellow PT

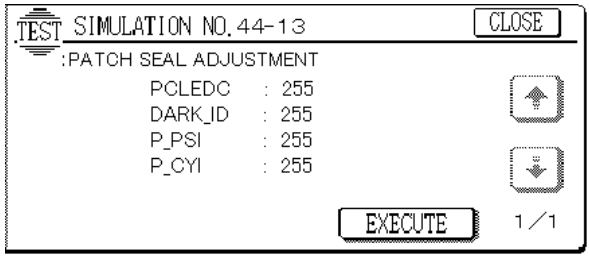


44 - 13

Purpose	Adjustment
Function (Purpose)	Used to adjust the image density sensor (for color) sensitivity (gain).
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) — Copy
Operation/ Procedure	1. Enter the simulation mode. 2. Attach the sensor adjustment sheet to the transfer belt.

3. Press the [EXECUTE] key.
   The main motor rotates and the image density sensor adjustment is started.
   After completion of the adjustment, the [EXECUTE] key returns to the normal display and the main motor stops.
   In case of an error, ERROR is displayed.
4. Remove the sensor adjustment sheet from the transfer belt.

		Default value
PCLEDC:	Image density sensor gain adjustment value	128
DARK_ID:	Color sensor dark voltage input	30
P_PSI:	Patch seal input	102
P_CYI:	Calibration plate input value	80



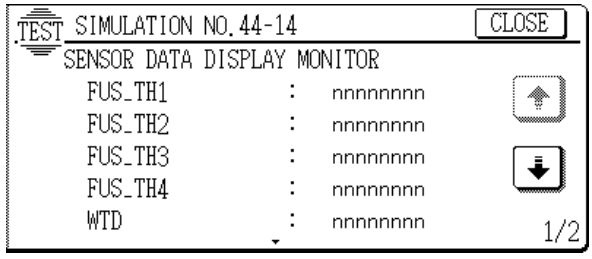
44 - 14

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to monitor the output level of the fusing temperature sensor, the machine temperature sensor, and the humidity sensor.
Section	Others
Operation/ Procedure	**FUS_TH1:** Fusing thermistor (THS1) A/D value (temperature °C)

FUS_TH2: Fusing thermistor (THS2) A/D value (temperature °C)
FUS_TH3: Fusing thermistor (THS3) A/D value (temperature °C)
FUS_TH4: Fusing thermistor (THS4) A/D value (temperature °C)
WTD: 0: The fusing thermistor (THS3/4) sensor output is not recognized.
1: The fusing thermistor (THS3/4) sensor output is recognized.

(The above functions are available only in the AR-C100, and differ depending on the main PCU PWB version.)

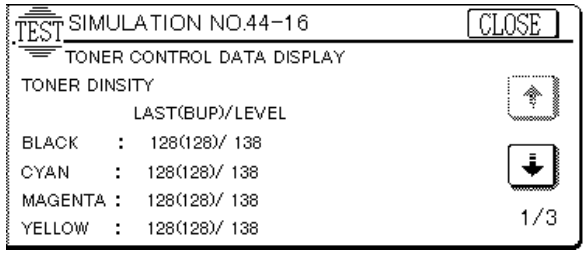
TEMPERATURE: Temperature thermistor
HUMIDITY: Humidity sensor



44 - 16

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the toner concentration correction result. (This simulation allows to check if correction is executed properly or not.)
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) — Developer/Toner Hopper
Item	Data — Operation data (Machine condition)
Operation/ Procedure	**[Content]** Toner concentration

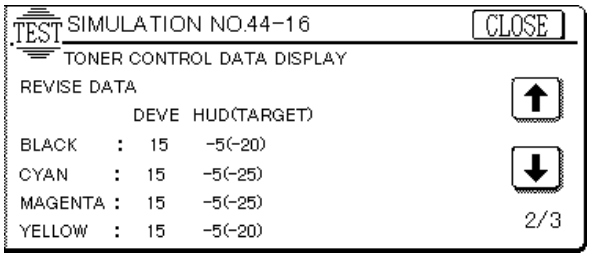
LAST (BUP) Toner concentration level
LEVEL Current toner concentration reference control level



[Content]

Toner concentration level correction value

DEVE Toner concentration correction level for the developer counter (use frequency)
HUD (TARGET) Toner concentration correction level for the current humidity (Target correction level for humidity)



[Content]

Black Reference value (Toner concenfration reference control level set with SIM 25-2) + Life correction + Humidity correction = Toner level

Cyan Reference value (Toner concenfration reference control level set with SIM 25-2) + Life correction + Humidity correction = Toner level

Magenta Reference value (Toner concenfration reference control level set with SIM 25-2) + Life correction + Humidity correction = Toner level

Yellow Reference value (Toner concenfration reference control level set with SIM 25-2) + Life correction + Humidity correction = Toner level

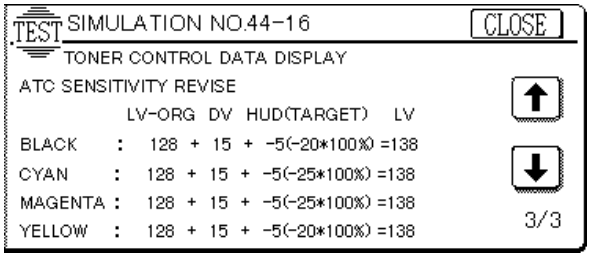
LV-ORG: Toner concentration reference control level set with SIM 25-2

DV: Toner concentration correction level for developer counter (use frequency)

HUD (TARGET): Toner concentration correction level for the current humidity (Target correction level for humidity/Toner concentration sensor correction level)

LV: Current toner concentration reference control level

Note: When correction for the developer counter (life) or humidity correction is inhibited (OFF) with SIM 44-1, the correction level display is 0.



44 - 20

Purpose	Adjustment
Function (Purpose)	Used to adjust the phase of OPC drum deflection. (Used to adjust deflection phases of four OPC drums.) (Old)
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) Photo conductor
Item	Operation
Operation/ Procedure	1. Select the adjustment item with [↑], [↓] keys. 2. Select the print mode in the adjustment item A (PRINT MODE). (This mode is basically used in the case of default setting 3.) 3. Select the paper kind in the adjustment item E (PAPER SELECT). (Select A3 (or 11" × 17") paper tray.) 4. Press the [EXECUTE] key. The drum deflection adjustment pattern (one sheet) is printed.

5. Check that output pattern. If the deflections of C, M, and Y are within the specified range (2 lines), terminate the simulation. If not, go to procedure 6.
6. Select "2" in the adjustment item A (PRINT MODE).
7. Press the [EXECUTE] key.
   Four sheet of drum deflection pattern is printed.
   * In the output pattern, figures 1, 4, 7, and 10 are printed in this sequence.
8. Four each print pattern of C, M, and Y, use the print value of the output pattern where the deflection is within 2 lines as each color adjustment value, and set it to the adjustment items B, C, and D.
9. To check the deflection in the adjustment value, select "3" in the adjustment item A.
10. Press the [EXECUTE] key.
    One sheet of drum deflection adjustment pattern is printed.
    C drum position (adjustment item B): 3 (60 degrees)
    M drum position (adjustment item C): 5 (120 degrees)
    Y drum position (adjustment item D): 7 (180 degrees)

[Adjustment item]

A: Print mode (Used to check that the set range is 1 – 3 and that the default is "3".)

1: Deflection check pattern for each 30 degrees (12 sheets print)
0° (1) → 30° (2) → 60° (3) → 90° (4) → 120° (5) → 150° (6) → 180° (7) → 210° (8) → 240° (9) → 270° (10) → 300° (11) → 330° (12)
Numbers in ( ) are printed on each self print.

2: Deflection check pattern for each 90 degrees (4 sheets print)
0° (1) → 90° (4) → 180° (7) → 270° (10)
Numbers in ( ) are printed on each output pattern.

3: Deflection check print at the set value (One sheet print)

B: C drum stop position counter for BK drum
(The set range is 0 – 330, and the default is 60.)

C: M drum stop position counter for BK drum
(The set range is 0 – 330, and the default is 120.)

D: M drum stop position counter for BK drum
(The set range is 0 – 330, and the default is 180.)

E: Cassette selection
(The set range is 1 – 6, and the default is 5.)

1: Manual feed (The sub message display is "PAPER: MANUAL".)

2: Copier 1st step (The sub message display is "PAPER: CAS1".)

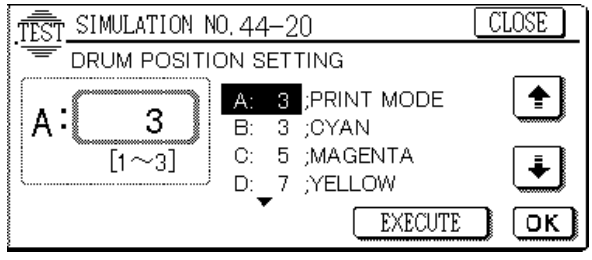
3: Copier 2nd step (The sub message display is "PAPER: CAS2".)

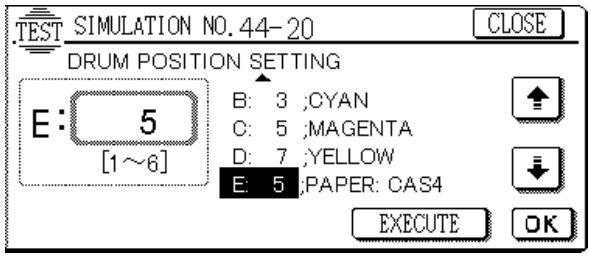
4: Copier 3rd step (The sub message display is "PAPER: CAS3".)

5: Copier 4th step (The sub message display is "PAPER: CAS4".)

6: LCC (The sub message display is "PAPER:LCC".)

[For cassette selection, tray 4 (5 in the selection item E) is set. (Default)]



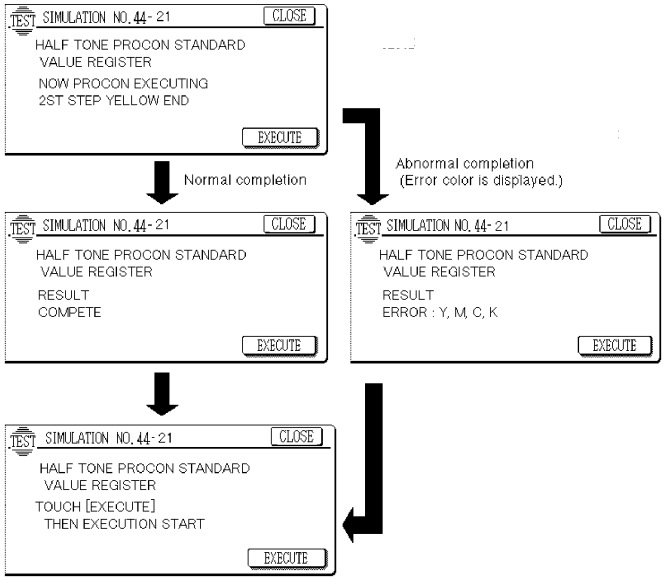


* This simulation is added from the middle of the production, and the photoconductor phase adjustment is shifted to SIM 44-31.

44 - 21

Purpose	Setting
Function (Purpose)	Used to store color balance adjustment data. (Half tone image correction initial setting) (After execution of color balance adjustment with SIM 46-21, this simulation must be executed.)
Item	Picture quality
Operation/ Procedure	Press the [EXECUTE] key,it is highlighted, the operation is started.

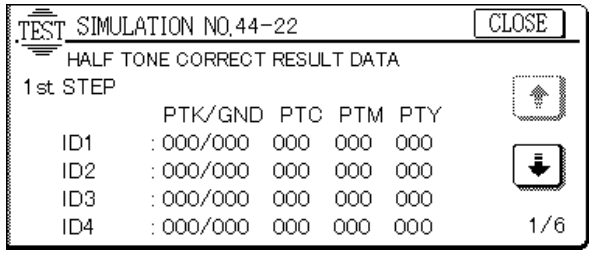
After completion of the execution, the [EXECUTE] key returns to the normal display and the main motor stops.
In case of an error, ERROR is displayed.



44 - 22

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check each color toner patch image density UITU in half tone image forming section correction (process correction). (This simulation allows to check if correction operation is performed normally.)
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Data — Operation data (Machine condition)
Operation/ Procedure	Select the correction operation data with [↑], [↓] keys. The patch density data of 1ST STEP and 2ND STEP in image forming section half tone correction operation are displayed. 1st STEP: 6-color data 2nd STEP: 16-color data

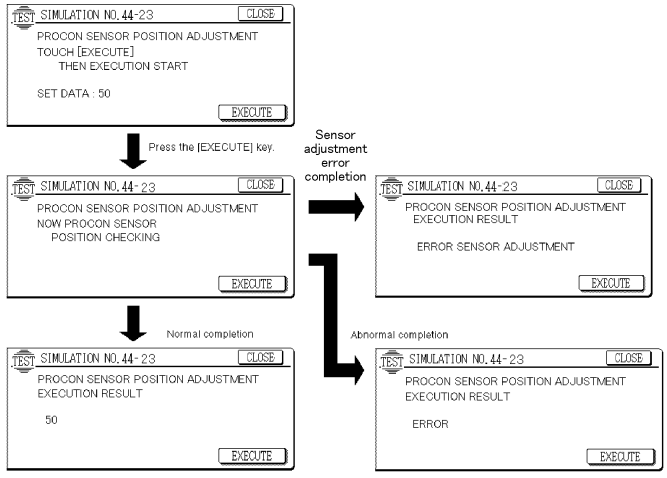
P1 Black PT/Black element Cyan PT Magenta PT Yellow PT
P2 Black PT/Black element Cyan PT Magenta PT Yellow PT
P3 Black PT/Black element Cyan PT Magenta PT Yellow PT



44 - 23

Purpose	Adjustment
Function (Purpose)	Used to adjust the image density sensor position (main scan direction). (The position is adjusted when toner patch is formed.)
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning) — Copy
Operation/ Procedure	Press the [EXECUTE] key, and the adjustment operation is started.

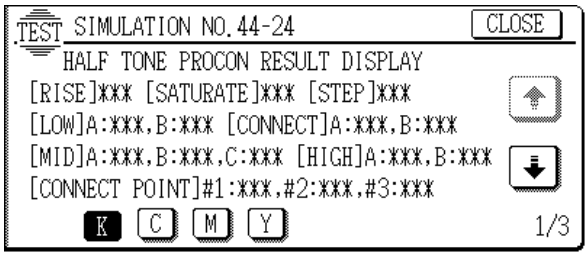
After completion of the adjustment, the [EXECUTE] key returns to the normal display.
In the case of normal completion, the average adjustment data is displayed.
In the case of abnormal completion, ERROR is displayed.
(Default value: 50)



44 - 24

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the half tone correction result. (This simulation allows to check if correction is executed properly or not.)
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Data — Operation data (Machine condition)
Operation/ Procedure	The correction data of each color is displayed. Select the color mode you wish to display with the color selection key.

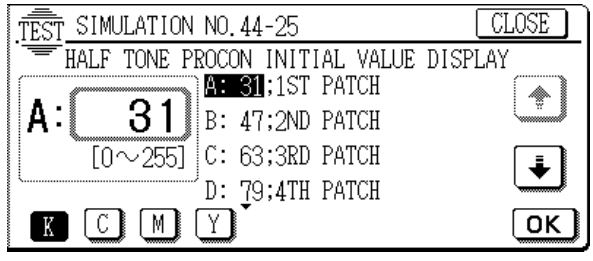
When image quality trouble occurs and it cannot be solved, inform us of these data as the reference information.



44 - 25

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the half tone correction result. (This simulation allows to check if correction is executed properly or not.)
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Data Operation data (Machine condition)
Operation/ Procedure	To correction data of each color is displayed. Select the color mode you wish to display with the color selection key.

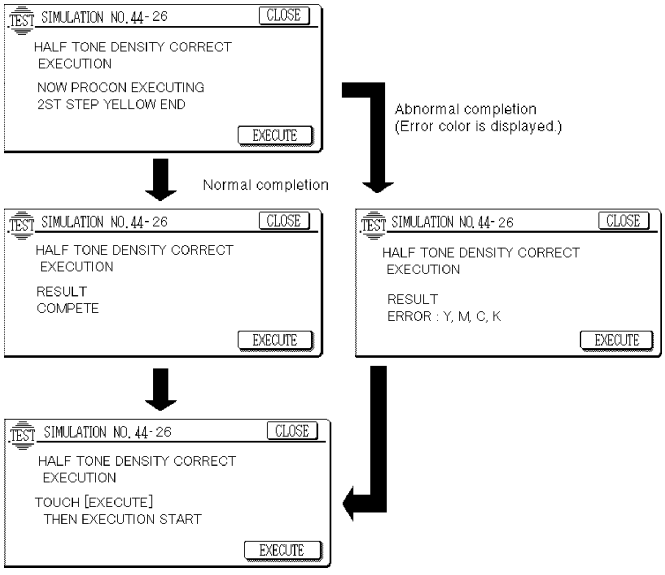
Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
A	1ST PATCH	31	0	255	Half tone process control 1st step No. 1 patch print gradation: Black
B	2ND PATCH	47	0	255	Half tone process control 1st step No. 2 patch print gradation: Black
C	3RD PATCH	63	0	255	Half tone process control 1st step No. 3 patch print gradation: Black
D	4TH PATCH	79	0	255	Half tone process control 1st step No. 4 patch print gradation: Black
E	5TH PATCH	255	0	255	Half tone process control 1st step No. 5 patch print gradation: Black
A	1ST PATCH	31	0	255	Half tone process control 1st step No. 1 patch print gradation: Cyan
B	2ND PATCH	47	0	255	Half tone process control 1st step No. 2 patch print gradation: Cyan
C	3RD PATCH	63	0	255	Half tone process control 1st step No. 3 patch print gradation: Cyan
D	4TH PATCH	79	0	255	Half tone process control 1st step No. 4 patch print gradation: Cyan
E	5TH PATCH	255	0	255	Half tone process control 1st step No. 5 patch print gradation: Cyan
A	1ST PATCH	31	0	255	Half tone process control 1st step No. 1 patch print gradation: Magenta
B	2ND PATCH	47	0	255	Half tone process control 1st step No. 2 patch print gradation: Magenta
C	3RD PATCH	63	0	255	Half tone process control 1st step No. 3 patch print gradation: Magenta
D	4TH PATCH	79	0	255	Half tone process control 1st step No. 4 patch print gradation: Magenta
E	5TH PATCH	255	0	255	Half tone process control 1st step No. 5 patch print gradation: Magenta
A	1ST PATCH	31	0	255	Half tone process control 1st step No. 1 patch print gradation: Yellow
B	2ND PATCH	47	0	255	Half tone process control 1st step No. 2 patch print gradation: Yellow
C	3RD PATCH	63	0	255	Half tone process control 1st step No. 3 patch print gradation: Yellow
D	4TH PATCH	79	0	255	Half tone process control 1st step No. 4 patch print gradation: Yellow
E	5TH PATCH	255	0	255	Half tone process control 1st step No. 5 patch print gradation: Yellow



44 - 26

Purpose	Adjustment
Function (Purpose)	Used to execute half tone correction compulsorily.
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Picture quality
Operation/ Procedure	Press the [EXECUTE] key, and it is highlighted. The half tone correction (image forming section correction (process correction)) is started.

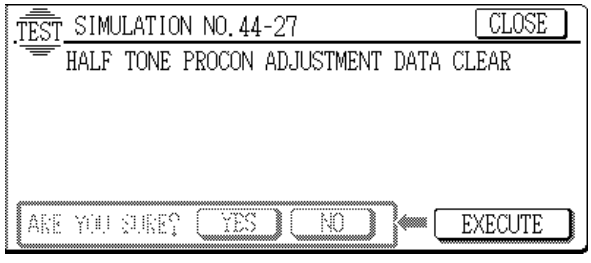
When the compulsory execution is completed, the [EXECUTE] key returns to the normal display.
In the case of abnormal completion, ERROR is displayed.
(Default value: 500)



44 - 27

Purpose	Data clear
Function (Purpose)	Used to set the half tone correction data to the default level.
Section	Image process (Photoconductor/Developing/Transfer/ Cleaning)
Item	Data
Operation/ Procedure	1. Press the [EXECUTE] key. The [YES] and [NO] keys become active.

2. Press the [YES] key.
   The half tone correction data is set to the default level.



Note	After replacement of the OPC drum or developer be sure to execute this simulation.

44 - 30

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the transfer charger current and the control circuit. (New)
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) Copy
Operation/ Procedure	(The transfer charger output voltage in printing the front and the back of paper can be adjusted and checked.)

1. Select the color mode with the [K], [C], [M], and [Y] keys.
2. Select the paper feed mode with [↑] key and [↓] key.
3. Enter the adjustment value with the 10-key pad.
4. Press the [EXECUTE] key.

The [EXECUTE] key is highlighted, the adjustment value entered in procedure 2 is set, and the voltage corresponding to the set value is supplied.
After supplying the voltage for 30 sec, the [EXECUTE] key returns to the normal display.

If the [EXECUTE] key is pressed while the voltage is supplied, the voltage output is stopped and the [EXECUTE] key returns to the normal display.

Since the transfer belt and the photoconductor drum are rotated simultaneously with outputting the transfer voltage in this simulation mode, the above parts will not be damaged.

[Color]
K: Black
C: Cyan
M: Magenta
Y: Yellow

[Paper feed mode]
SPX: Cassette and manual paper feed
DPX: Duplex paper feed
TRANSPARENCY: OHP paper feed
HEAVYPAPER: Heavy paper feed

[Adjustment range]

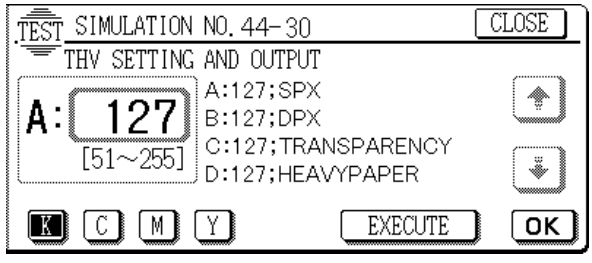
51 – 255 (Default: Varies depending on the color and the paper feed mode.) The actual output variable range varies depending on the color as follows:

K: 0V – 4000V (Default: SPX/DPX is about 2.5KV at 178. TRANSPARENCY/HEAVYPAPER is about 3KV at 204.)
C: 0V – 4500V (Default: SPX/DPX is about 2.5KV at 164. TRANSPARENCY is about 3.5KV at 209. HEAVYPAPER is about 3KV at 187.)
M: 0V – 7000V (Default: SPX/DPX is about 2.5KV at 123. TRANSPARENCY is about 4KV at 167. HEAVYPAPER is about 3KV at 138.)
Y: 0V – 7000V (Default: SPX/DPX is about 2.5KV at 123. TRANSPARENCY is about 4.5KV at 182. HEAVYPAPER is about 3KV at 138.)

[Adjustment unit]

K: About 19.6 [V/Count]
C: About 22.1 [V/count]
M: About 34.3 [V/Count]
Y: About 34.3 [V/Count]

	Display	Default value				Note
		BK	C	M	Y	
Normal paper mode	A: SPX	178	164	123	123	
ADU mode	B: DPX	178	164	123	123	
OHP mode	C: OHP	204	209	167	182	
Heavy paper mode	D: HEAVY PAPER	204	187	138	138	



* In the AR-C250, SIM 8-6 is abolished and SIM 44-30 (transfer voltage adjustment) is added from the beginning of the production, and the AR-C100/C150 from the middle of the production.

44 - 31

Purpose	Adjustment
Function (Purpose)	Used to adjust the phase of OPC drum deflection. (Used to adjust deflection phases of four OPC drums.) (New)
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) Photo conductor
Item	Operation

Operation/ Procedure	1. Select the adjustment item with [↑], [↓] keys. 2. Select the print mode in the adjustment item A (PRINT MODE). (This mode is basically used in the case of default setting 3.) 3. Select the paper kind in the adjustment item E (PAPER SELECT). (Select A4R (or 11" × 8.5R") paper tray.) 4. Press the [EXECUTE] key. The drum deflection adjustment pattern (one sheet) is printed. 5. Check that output pattern. If the deflections of C, M, and Y are within the specified range (2 lines), terminate the simulation. If not, go to procedure 6. 6. Select "2" in the adjustment item A (PRINT MODE). 7. Press the [EXECUTE] key. Four sheet of drum deflection pattern is printed. ∗ In the output pattern, figures 1, 3, 5, and 7 are printed in this sequence. 8. Four each print pattern of C, M, and Y, use the print value of the output pattern where the deflection is within 2 lines as each color adjustment value, and set it to the adjustment items B, C, and D. 9. To check the deflection in the adjustment value, select "3" in the adjustment item A. 10. Press the [EXECUTE] key. One sheet of drum deflection adjustment pattern is printed. C drum position (adjustment item B): 2 (45 degrees) M drum position (adjustment item C): 4 (135 degrees) Y drum position (adjustment item D): 5 (180 degrees)

[Adjustment item]

A: Print mode (Used to check that the set range is 1 – 3 and that the default is "3".)

1: Deflection check pattern for each 45 degrees (8 sheets print)
0° (1) → 45° (2) → 90° (3) → 135° (4) → 180° (5) → 225° (6) → 270° (7) → 315° (8)
Numbers in ( ) are printed on each self print.

2: Deflection check pattern for each 90 degrees (4 sheets print)
0° (1) → 90° (3) → 180° (5) → 270° (7)
Numbers in ( ) are printed on each output pattern.

3: Deflection check print at the set value (One sheet print)

B: C drum stop position counter for BK drum
(The set range is 0 – 315 (1 – 8))

C: M drum stop position counter for BK drum
(The set range is 0 – 315 (1 – 8))

D: M drum stop position counter for BK drum
(The set range is 0 – 315 (1 – 8))

E: Cassette selection
(The set range is 1 – 6, and the default is 5.)

1: Manual feed (The sub message display is "PAPER: MANUAL".)

2: Copier 1st step (The sub message display is "PAPER: CAS1".)

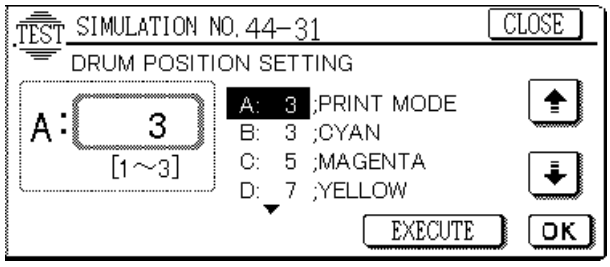
3: Copier 2nd step (The sub message display is "PAPER: CAS2".)

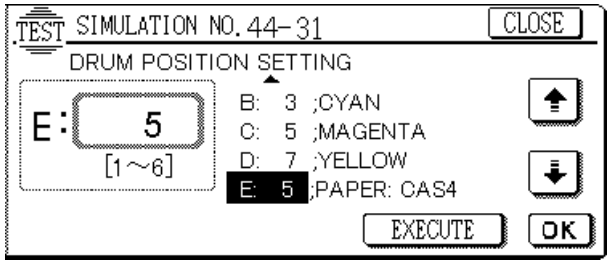
4: Copier 3rd step (The sub message display is "PAPER: CAS3".)

5: Copier 4th step (The sub message display is "PAPER: CAS4".)

6: LCC (The sub message display is "PAPER:LCC".)

[For cassette selection, tray 4 (5 in the selection item E) is set. (Default)]





∗ In the AR-C100/C150, the photoconductor phase adjustment procedure (SIM 44-20) is abolished and this simulation is added from the middle of the production.

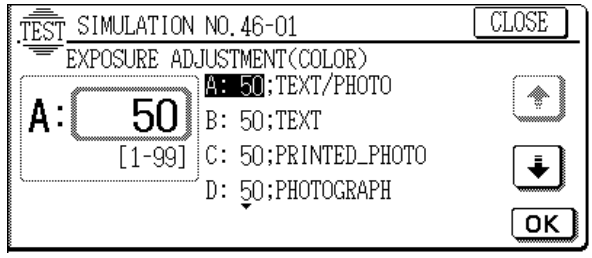
46

46 - 1

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density of each mode in the low density area in the color copy mode. The copy densities all colors in the low density area are changed. (AR-C150/C250)
Item	Picture quality Density
Operation/ Procedure	1. Select the copy mode where the copy density adjustment is performed with [↑] and [↓] keys. 2. Enter the adjustment value with the 10-key. 3. Press the [OK] key.

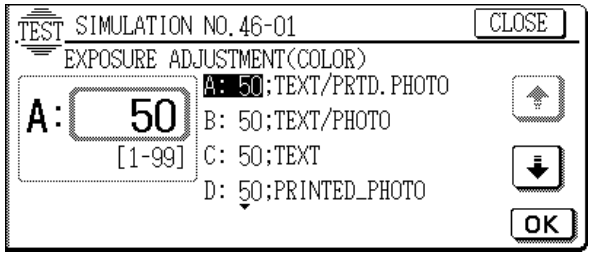
(AR-C150)

Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
A	TEXT/PHOTO	50	1	99	Copy density adjustment value ((Color) Text/Printed Photo mode)
B	TEXT	50	1	99	Copy density adjustment value ((Color) Text mode)
C	PRINTED_PHOTO	50	1	99	Copy density adjustment value ((Color) Printed Photo mode)
D	PHOTOGRAPH	50	1	99	Copy density adjustment value ((Color) Photograph mode)
E	MAP	50	1	99	Copy density adjustment value ((Color) Map mode)



(AR-C250)

Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
A	TEXT/PRTD.PHOTO	50	1	99	Exposure adjustment set value (Color) Text/Printed Photo
B	TEXT/PHOTO	50	1	99	Exposure adjustment set value (Color) Text/Photo
C	TEXT	50	1	99	Exposure adjustment set value (Color) Text
D	PRINTED_PHOTO	50	1	99	Exposure adjustment set value (Color) Printed Photo
E	Photo	50	1	99	Exposure adjustment set value (Color) Photo
F	MAP	50	1	99	Exposure adjustment set value (Color) Map
G	TEXT/PRTD.P_CTC	46	1	99	Exposure adjustment set value (Color) Text/Printed Photo (Copy document mode)
H	TEXT_CTC	46	1	99	Exposure adjustment set value (Color) Text (Copy document mode)
I	PRTD.PHOTO_CTC	46	1	99	Exposure adjustment set value (Color) Printed Photo (Copy document mode)



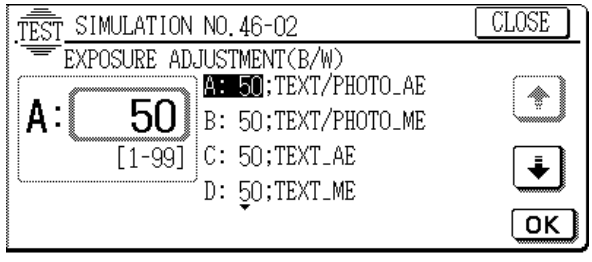
46 - 2

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density in the low density area in the monochrome copy mode. The copy density in the low density area is changed. (AR-C150/C250)
Item	Picture quality Density
Operation/ Procedure	1. Select the copy mode where the copy density adjustment is performed with [↑] and [↓] keys.

2. Enter the adjustment value with the 10-key.
3. Press the [OK] key.

(AR-C150)

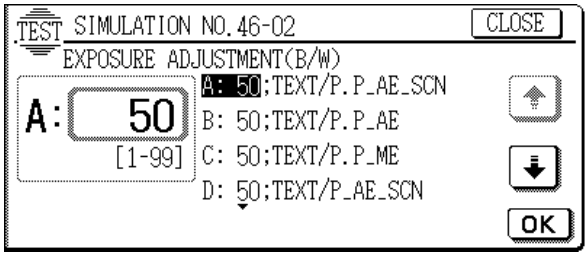
Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
A	TEXT/PH_AE_SCN	50	1	99	Copy density adjustment value ((B/W) Text/Printed Photo, auto pre-scan mode)
B	TEXT/PH_AE	50	1	99	Copy density adjustment value ((B/W) Text/Printed Photo, auto mode)
C	TEXT/PH_ME	50	1	99	Copy density adjustment value ((B/W) Text/Printed Photo, manual mode)
D	TEXT_AE_SCN	50	1	99	Copy density adjustment value ((B/W) Text, auto pre-scan mode)
E	TEXT_AE	50	1	99	Copy density adjustment value ((B/W) Text, auto mode)
F	TEXT_ME	50	1	99	Copy density adjustment value ((B/W) Text, manual mode)
G	PRINTED_PHOTO	50	1	99	Copy density adjustment value ((B/W) Printed Photo mode)
H	PHOTOGRAPH	50	1	99	Copy density adjustment value ((B/W) Photograph mode)
I	MAP	50	1	99	Copy density adjustment value ((B/W) Map mode)



(AR-C250)

Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
A	TEXT/P.P_AE_SCN	50	1	99	Exposure adjustment set value (B/W) Text/Printed Photo, Auto pre-scan
B	TEXT/P.P_AE	50	1	99	Exposure adjustment set value (B/W) Text/Printed Photo, Auto
C	TEXT/P.P_ME	50	1	99	Exposure adjustment set value (B/W) Text/Printed Photo, Manual

Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
D	TEXT/P_AE_SCN	50	1	99	Exposure adjustment set value (B/W) Text/Photo, Auto pre-scan
E	TEXT/P_AE	50	1	99	Exposure adjustment set value (B/W) Text/Photo, Auto
F	TEXT/P_ME	50	1	99	Exposure adjustment set value (B/W) Text/Photo, Manual
G	TEXT_AE_SCN	50	1	99	Exposure adjustment set value (B/W) Text, Auto pre-scan
H	TEXT_AE	50	1	99	Exposure adjustment set value (B/W) Text, Auto
I	TEXT_ME	50	1	99	Exposure adjustment set value (B/W) Text, Manual
J	PRINTED_PHOTO	50	1	99	Exposure adjustment set value (B/W) Printed Photo
K	Photo	50	1	99	Exposure adjustment set value (B/W) Photo
L	MAP	50	1	99	Exposure adjustment set value (B/W) Map
M	T/P.P_ME_CTC	50	1	99	Exposure adjustment set value (B/W) Text/Printed Photo, Manual; (Copy document mode)
N	TEXT_ME_CTC	50	1	99	Exposure adjustment set value (B/W) Text, Manual; (Copy document mode)
O	PRTD.PHOTO_CTC	50	1	99	Exposure adjustment set value (B/W) Printed Photo (Copy document mode)



46 - 6

Purpose	Adjustment
Function (Purpose)	1) Used to set CCD black level offset level. 2) Used to set CCD white level gain.
Section	Optical (Image scanning)
Item	Picture quality
Operation/ Procedure	1. Select the set item with [↑], [↓] keys. 2. Select the color mode with R, G, B color keys. (The currently set adjustment value is displayed.) 3. Enter the adjustment value with the 10-key. 4. Press the [OK] key. (The entered value is set.)

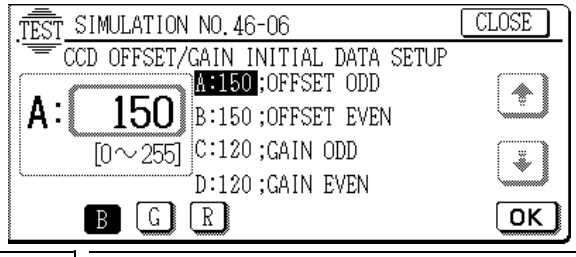
Set the following set value.

(AR-C100/C150)

Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
A	OFFSET ODD	150	0	255	CCD odd number offset value/blue
B	OFFSET EVEN	150	0	255	CCD even number offset value/blue
C	GAIN ODD	120	0	255	CCD odd number gain value/blue
D	GAIN EVEN	120	0	255	CCD even number gain value/blue
A	OFFSET ODD	150	0	255	CCD odd number offset value/green
B	OFFSET EVEN	150	0	255	CCD even number offset value/green
C	GAIN ODD	140	0	255	CCD odd number gain value/green
D	GAIN EVEN	140	0	255	CCD even number gain value/green
A	OFFSET ODD	150	0	255	CCD odd number offset value/red
B	OFFSET EVEN	150	0	255	CCD even number offset value/red
C	GAIN ODD	180	0	255	CCD odd number gain value/red
D	GAIN EVEN	180	0	255	CCD even number gain value/red

(AR-C250)

Disp PosNo.	DispChara	Default Value	Min Value	Max Value	Contents
A	OFFSET ODD	150	0	255	CCD odd number offset initial value/blue
B	OFFSET EVEN	150	0	255	CCD even number offset initial value/blue
C	GAIN ODD	150	0	255	CCD odd number gain initial value/blue
D	GAIN EVEN	150	0	255	CCD even number gain initial value/blue
A	OFFSET ODD	150	0	255	CCD odd number offset initial value/green
B	OFFSET EVEN	150	0	255	CCD even number offset initial value/green
C	GAIN ODD	130	0	255	CCD odd number gain initial value/green
D	GAIN EVEN	130	0	255	CCD even number gain initial value/green
A	OFFSET ODD	150	0	255	CCD odd number offset initial value/red
B	OFFSET EVEN	150	0	255	CCD even number offset initial value/red
C	GAIN ODD	160	0	255	CCD odd number gain initial value/red
D	GAIN EVEN	160	0	255	CCD even number gain initial value/red



Note	Never set to another value than the standard value.

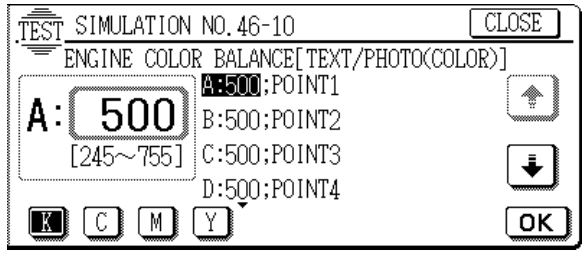
46 - 10

Purpose	Adjustment
Function (Purpose)	Used to set the copy color balance (gamma for each color). (Color/Text Photo mode). (AR-C100/ C150) Used to adjust the copy color balance (gamma for each color). (Color/Copy document mode) (AR-C250)
Section	ICU
Item	Picture quality Color balance
Operation/ Procedure	1. Select the color to be adjusted with the color keys (K, C, M, Y). 2. Select the adjustment point with [↑], [↓] keys. 3. Enter the adjustment value of the selected point with the 10-key. 4. Press the [OK] key. (The entered value is set.)

(AR-C100/C150)

<SIM46-10 Data detail>

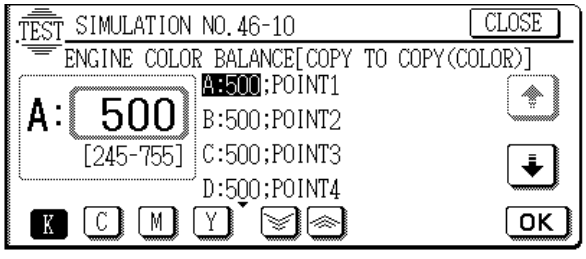
Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black density 0 for text/Printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black density 14 for text/Printed photo
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 0 for text/Printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 14 for text/Printed photo
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 0 for text/Printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 14 for text/Printed photo
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 0 for text/Printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 14 for text/Printed photo



(AR-C250)

<SIM46-10 Data detail>

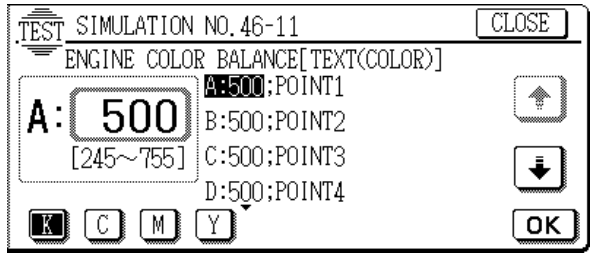
Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode black density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode black density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode cyan density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode cyan density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode magenta density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode magenta density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode yellow density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode yellow density 14



46 - 11

Purpose	Adjustment
Function (Purpose)	Used to set the copy color balance (gamma for each color). (Color/Text mode) (AR-C150/C250)
Section	ICU

Item	Picture quality	Color balance
Operation/ Procedure	1. Select the color to be adjusted with the color keys (K, C, M, Y). 2. Select the adjustment point with [↑], [↓] keys. 3. Enter the adjustment value of the selected point with the 10-key. 4. Press the [OK] key. (The entered value 2 is set.)	



<SIM46-11 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black density 0 for text
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black density 14 for text
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 0 for text
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 14 for text
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 0 for text
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 14 for text
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 0 for text
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 14 for text

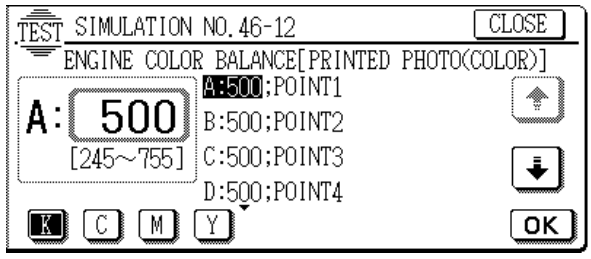
46 - 12

Purpose	Adjustment
Function (Purpose)	Used to set the copy color balance (gamma for each color). (Color/Printed Photo mode) (AR-C150) Used to adjust the copy color balance (gamma for each color). (Color/Text Printed Photo/Printed Photo mode) (AR-C250)
Section	ICU
Item	Picture quality Color balance
Operation/ Procedure	1. Select the color to be adjusted with the color keys (K, C, M, Y). 2. Select the adjustment point with [↑], [↓] keys. 3. Enter the adjustment value of the selected point with the 10-key. 4. Press the [OK] key. (The entered value 2 is set.)

(AR-C150)

<SIM46-12 Data detail>

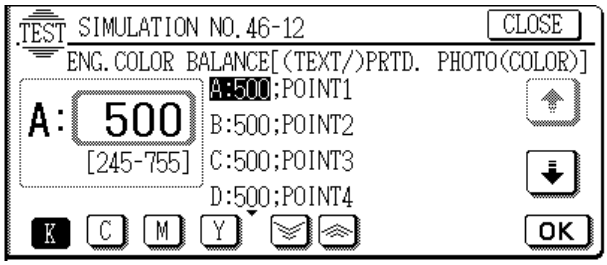
Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black density 0 for printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black density 14 for printed photo
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 0 for printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 14 for printed photo
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 0 for printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 14 for printed photo
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 0 for printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 14 for printed photo



(AR-C250)

<SIM46-12 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo black density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo black density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo cyan density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo cyan density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo magenta density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo magenta density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo yellow density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed Photo/Printed Photo yellow density 14



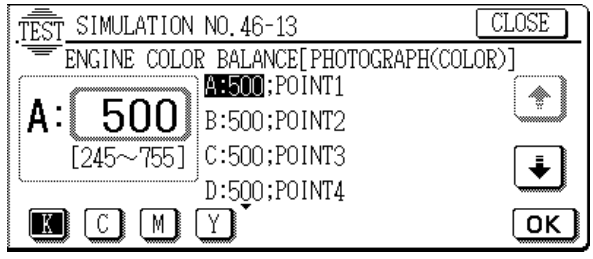
46 - 13

Purpose	Adjustment
Function (Purpose)	Used to set the copy color balance (gamma for each color). (Color/Photo mode) (AR-C100/C150) Used to adjust the copy color balance (gamma for each color). (Color/Text Photo/Photograph mode) (AR-C250)
Section	ICU
Item	Picture quality Color balance
Operation/ Procedure	1. Select the color to be adjusted with the color keys (K, C, M, Y). 2. Select the adjustment point with [↑], [↓] keys. 3. Enter the adjustment value of the selected point with the 10-key. 4. Press the [OK] key. (The entered value 2 is set.)

(AR-C100/C150)

<SIM46-13 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black density 0 for photograph
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black density 14 for photograph
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 0 for photograph
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 14 for photograph
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 0 for photograph
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 14 for photograph
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 0 for photograph
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 14 for photograph

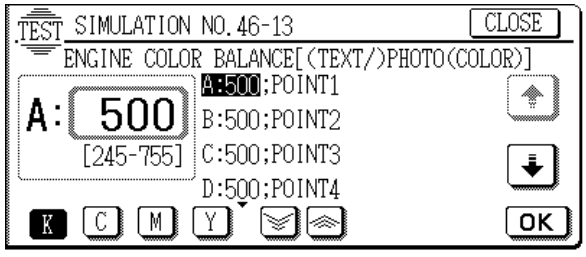


(AR-C250)

<SIM46-13 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo black density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo black density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo cyan density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo cyan density 14
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo magenta density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo magenta density 14

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo yellow density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo yellow density 14



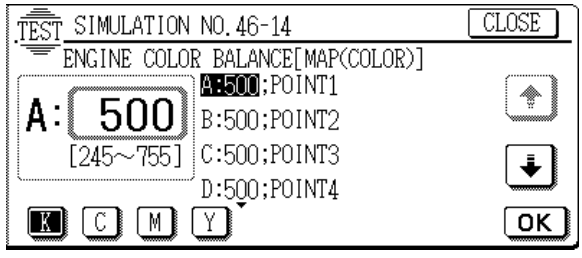
46 - 14

Purpose	Adjustment
Function (Purpose)	Used to set the copy color balance (gamma for each color). (Color/Map mode) (AR-C150/C250)
Section	ICU
Item	Picture quality Color balance
Operation/ Procedure	1. Select the color to be adjusted with the color keys (K, C, M, Y).

2. Select the adjustment point with [↑], [↓] keys.
3. Enter the adjustment value of the selected point with the 10-key.
4. Press the [OK] key.
   (The entered value 2 is set.)

<SIM46-14 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black density 0 for map
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black density 14 for map
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 0 for map
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 14 for map
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 0 for map
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 14 for map
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 0 for map
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 14 for map



46 - 15

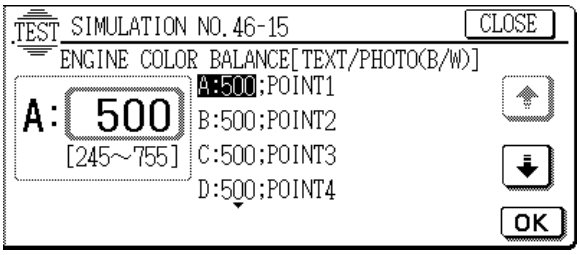
Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density (gamma). (Monochrome/Text Photo mode) (AR-C100/ C150) Used to adjust the copy density (gamma). (Monochrome/Copy document mode) (AR-C250)
Section	ICU
Item	Picture quality Density
Operation/ Procedure	1. Select the adjustment point with [↑], [↓] keys. 2. Enter the adjustment value of the selected point with the 10-key.

3. Press the [OK] key.
   (The entered value 2 is set.)

(AR-C100/C150)

<SIM46-15 Data detail>

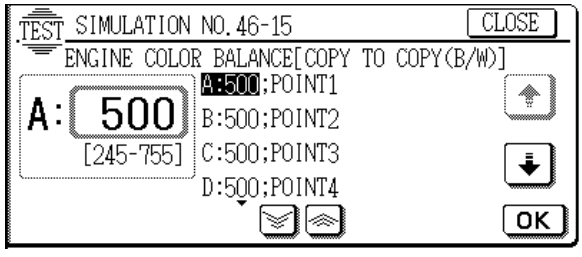
Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 0 for text/printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 14 for text/printed photo



(AR-C250)

<SIM46-15 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode black B/W density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Copy document mode black B/W density 14

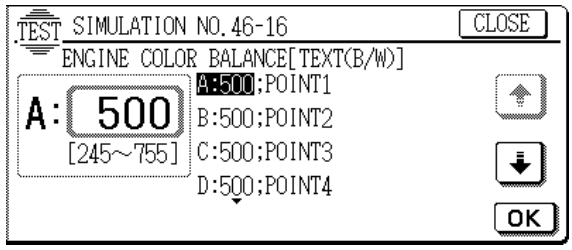


46 - 16

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density (gamma). (Monochrome/Test mode) (AR-C150/C250)
Section	ICU
Item	Picture quality Density
Operation/ Procedure	1. Select the adjustment point with [↑], [↓] keys. 2. Enter the adjustment value of the selected point with the 10-key. 3. Press the [OK] key. (The entered value is set.)

<SIM46-16 Data detail>

Disp Pos	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 0 for text
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 14 for text



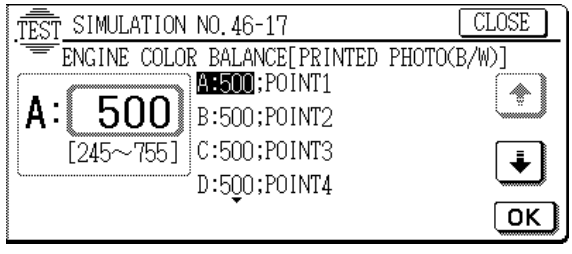
46 - 17

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density (gamma). (Monochrome/Printed Photo mode) (AR-C150) Used to adjust the copy density (gamma). (Monochrome/Text Printed Photo/Printed Photo mode) (AR-C250)
Section	ICU
Item	Picture quality Density
Operation/ Procedure	1. Select the adjustment point with [↑], [↓] keys. 2. Enter the adjustment value of the selected point with the 10-key. 3. Press the [OK] key. (The entered value is set.)

(AR-C150)

<SIM46-17 Data detail>

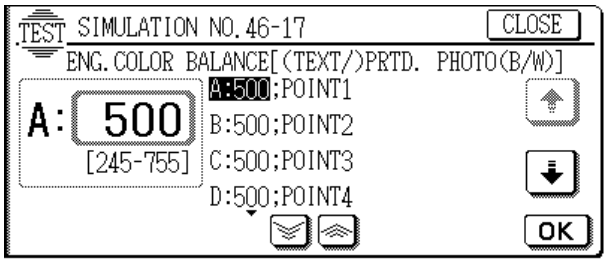
Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 0 for printed photo
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 14 for printed photo



(AR-C250)

<SIM46-17 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed photo/Printed Photo black B/W density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Printed photo/Printed Photo black B/W density 14



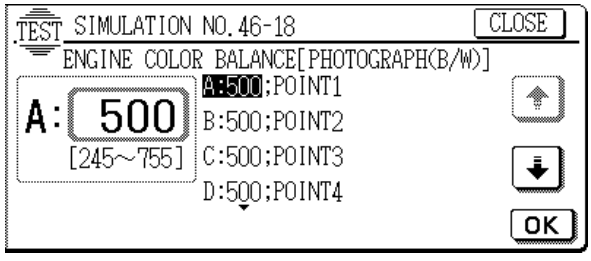
46 - 18

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density (gamma). (Monochrome/Photo mode) (AR-C100/C150) Used to adjust the copy density (gamma). (Monochrome/Text Photo/Photo mode) (AR-C250)
Section	ICU
Item	Picture quality Density
Operation/ Procedure	1. Select the adjustment point with [↑], [↓] keys. 2. Enter the adjustment value of the selected point with the 10-key. 3. Press the [OK] key. (The entered value is set.)

(AR-C100/C150)

<SIM46-18 Data detail>

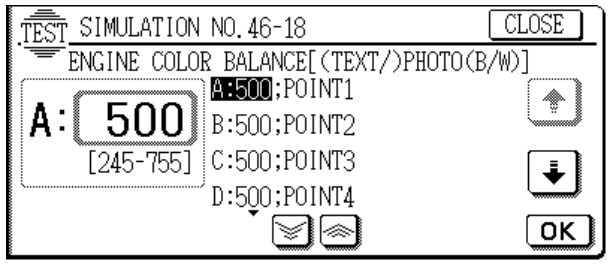
Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 0 for photograph
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 14 for photograph



(AR-C250)

<SIM46-18 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo black B/W density 0
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: Text Photo/Photo black B/W density 14

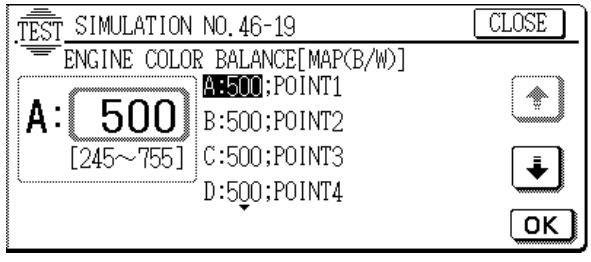


46 - 19

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density (gamma). (Monochrome/Map mode)(AR-C150/C250)
Section	ICU
Item	Picture quality Density
Operation/ Procedure	1. Select the adjustment point with [↑], [↓] keys. 2. Enter the adjustment value of the selected point with the 10-key. 3. Press the [OK] key. (The entered value is set.)

<SIM46-19 Data detail>

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 0 for map
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black B/W density 14 for map

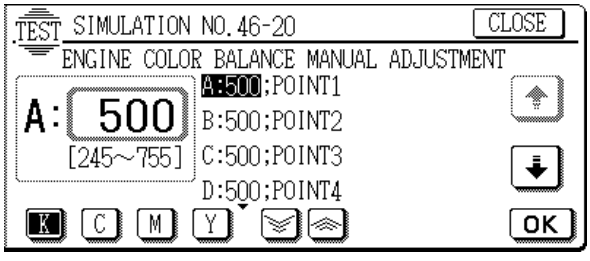


46 - 20

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density (gamma). (Color/ All modes) (The copy color balances (gamma) in all copy modes are changed.) The operations are the same as SIM 46-21, but printing is not performed.
Section	ICU
Item	Picture quality Color balance
Operation/ Procedure	1. Select the color to be adjusted with the color keys (K, C, M, Y). 2. Select the adjustment point with [↑], [↓] keys. 3. Enter the adjustment value of the selected point with the 10-key. 4. Press the [OK] key. (The entered value is set.)

5. Press the [EXECUTE] key.
   The color balance adjustment test pattern corresponding to the entered adjustment value is printed.

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black density 14 for all
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 14 for all
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 14 for all
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 14 for all



46 - 21

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy color balance (gamma). (Color/All modes) (The color balance (gamma) in all the copy modes is changed.) Printing is performed while adjustment.
Section	ICU

Item	Picture quality	Color balance

Operation/ Procedure

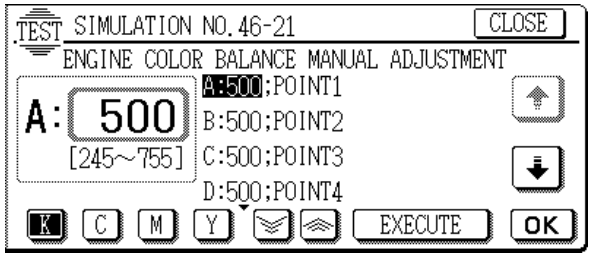
1. Select the color to be adjusted with the color keys (K, C, M, Y).
2. Select the adjustment point with [↑], [↓] keys.
3. Enter the adjustment value of the selected point with the 10-key.
4. Press the [OK] key.
   (The entered value is set.)
5. Press the [EXECUTE] key.
   The color balance adjustment test pattern corresponding to the entered adjustment value is printed.

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: black density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: black density 14 for all
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: cyan density 14 for all
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: magenta density 14 for all
A	POINT1	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 0 for all
↓	↓	↓	↓	↓	↓
O	POINT15	500	245	755	Half tone reference correction table S46 correction quantity: yellow density 14 for all

Common to all colors

Disp Chara	Default Value	Min Value	Max Value	Contents
COPIES	1	1	999	Number of sheets of self print
PAPER SEL:***	2	1	6	Paper feed tray when self print is executed

***: The display item differs depending on the data value.



Note	Do not change the setting in normal cases.

46 - 22

Purpose	Adjustment
Function (Purpose)	Used to make the print (printer engine) color balance (gamma) adjustment. (Auto adjustment) (AR-C100)
Section	ICU
Item	Picture quality Color balance
Operation/ Procedure	1. Select the adjustment item with [↑], [↓] keys. (The selected item is highlighted.)

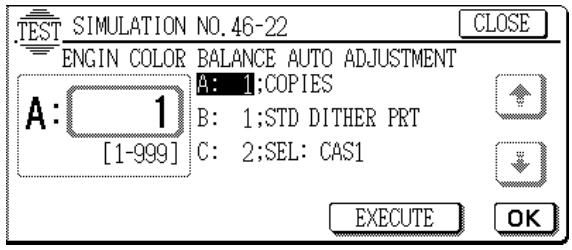
2. Enter the adjustment value with the 10-key.
3. Press the [OK] key or the arrow ([↑] [↓]) key to store the entered value.
4. Press the [EXECUTE] key, and the self print or the automatic adjustment of engine color balance will be performed depending on the value of set item B.

---

1. Select item A and C with [↑] and [↓] keys, and set the paper source (paper size, A3/11" × 17") and the print quantity. (Enter the number corresponding to the set item with the 10-key and press the [OK] key.)
2. Select item B with [↑] and [↓] keys.
3. Select item 1 (Self print mode) of item B.
4. Press the [EXECUTE] key. The color balance adjustment test pattern A is printed.
5. Set the printed adjustment pattern on the original table.
6. Select item 2 (auto adjustment) of item B.
7. Press the [EXECUTE] key. The adjustment pattern is read and the color balance (gamma) adjustment is automatically performed.
8. Select item 3 (self print) of item B.
9. Press the [EXECUTE] key. The color balance adjustment test pattern B is printed.
10. Set the printed adjustment pattern on the original table.
11. Select item 4 (auto adjustment) of item B.
12. Press the [EXECUTE] key. The adjustment pattern is read and the color balance (gamma) adjustment is automatically performed.

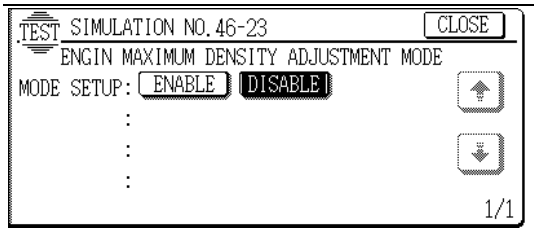
Value of B	Display	Process	Self print pattern No.
1	STD DITHER PRT	Self print	106
2	DITHER SELECT	Auto adjustment	
3	ADJ DITHER PRT	Self print	107
4	DITHER ADJUST	Auto adjustment	

(Default value) A: 1
B: 1
C: 2



Note	This procedure is used to select the most suitable gamma curve by reading the self-printed pattern. To increase the accuracy, repeat the procedure.

46 - 23

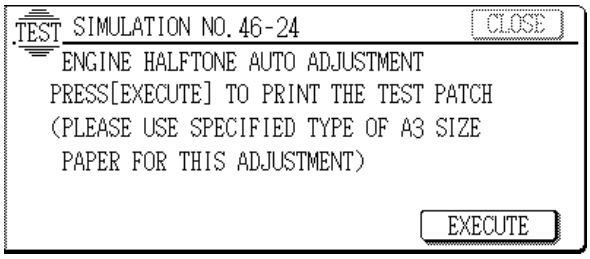
Purpose	Setting
Function (Purpose)	Used to the half tone high density correction operation. (AR-C150/C250)
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Operation
Operation/ Procedure	

Select Enable.

46 - 24

Purpose	Adjustment
Function (Purpose)	Used to adjust the print (printer engine) color balance (gamma). (Auto adjustment) (For AR-C150/C250)
Item	Picture quality Color balance
Operation/ Procedure	1. Press the [EXECUTE] key. (A3 or 11 × 17" paper is automatically selected.) The color patch image (adjustment pattern) is printed out.

2. Set the color patch image (adjustment pattern) paper printed in procedure 1) on the original table.
3. Press the SERVICE key on the operation panel and press the [EXECUTE] key. The copy color balance adjustment (step 1) is automatically performed and the color balance check patch image is printed out.
4. Press the REPEAT key on the operation panel.
5. Press the [EXECUTE] key. The color patch image (adjustment pattern) is printed out.
6. Set the color patch image (adjustment pattern) paper printed in procedure 5) on the original table. (Place so that the darker patch is on the left side.)
7. Press the SERVICE key on the operation panel and press the [EXECUTE] key. The copy color balance adjustment (step 2) is automatically performed and the color balance check patch image is printed out.
8. Press the [OK] key on the operation panel. According to the adjustment data, initial setup of half tone image correction is performed.



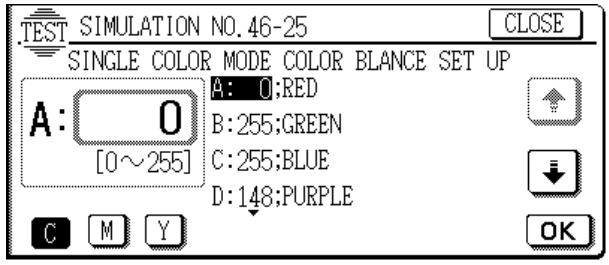
46 - 25

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy color balance. (Single color copy mode) (AR-C250)
Section	ICU
Item	Picture quality
Operation/ Procedure	1. Select a color to be adjusted with the color key (R, G, B, P, O, BR).

2. Enter the adjustment value of the selected color with the 10-key.
3. Press the [OK] key. (The adjustment value is set.)

By pressing the C/M/Y key, the color density level (R,G,B,P,O,BR) (adjustment value) of each color (C/M/Y) is displayed.

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
C					
A	RED	0	0	255	Set ratio of CYAN for single color: red
B	GREEN	255	0	255	Set ratio of CYAN for single color: green
C	BLUE	255	0	255	Set ratio of CYAN for single color: blue
D	PURPLE	148	0	255	Set ratio of CYAN for single color: purple
E	ORANGE	38	0	255	Set ratio of CYAN for single color: orange
F	BROWN	131	0	255	Set ratio of CYAN for single color: brown
M					
A	RED	255	0	255	Set ratio of MAGENTA for single color: red
B	GREEN	0	0	255	Set ratio of MAGENTA for single color: green
C	BLUE	255	0	255	Set ratio of MAGENTA for single color: blue
D	PURPLE	238	0	255	Set ratio of MAGENTA for single color: purple
E	ORANGE	140	0	255	Set ratio of MAGENTA for single color: orange
F	BROWN	255	0	255	Set ratio of MAGENTA for single color: brown
Y					
A	RED	255	0	255	Set ratio of YELLOW for single color: red
B	GREEN	255	0	255	Set ratio of YELLOW for single color: green
C	BLUE	0	0	255	Set ratio of YELLOW for single color: blue
D	PURPLE	105	0	255	Set ratio of YELLOW for single color: purple
E	ORANGE	255	0	255	Set ratio of YELLOW for single color: orange
F	BROWN	229	0	255	Set ratio of YELLOW for single color: brown



46 - 26

Purpose	Setting
Function (Purpose)	Used to set the copy color balance adjustment value to the default. (Single color copy mode) (AR-C250)
Section	ICU
Item	Picture quality
Operation/ Procedure	1. Select a color whose value is set to the default with the key.

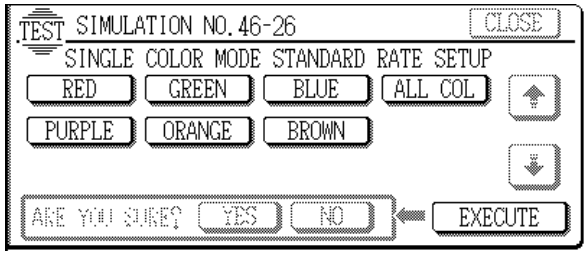
(When ALL COL key is pressed, all six colors are selected.)

2. Press the [EXECUTE] key.
3. Press the [YES] key.

The copy color balance adjustment value is set to the default.

Disp PosNo.	Disp Chara	Default Value	Contents
1	RED	0	Set ratio of CYAN for single color: red
		255	Set ratio of MAGENTA for single color: red
		255	Set ratio of YELLOW for single color: red
2	GREEN	255	Set ratio of CYAN for single color: green
		0	Set ratio of MAGENTA for single color: green
		255	Set ratio of YELLOW for single color: green
3	BLUE	255	Set ratio of CYAN for single color: blue
		255	Set ratio of MAGENTA for single color: blue
		0	Set ratio of YELLOW for single color: blue
5	PURPLE	148	Set ratio of CYAN for single color: purple
		238	Set ratio of MAGENTA for single color: purple
		105	Set ratio of YELLOW for single color: purple

Disp PosNo.	Disp Chara	Default Value	Contents
6	ORANGE	38	Set ratio of CYAN for single color: orange
		140	Set ratio of MAGENTA for single color: orange
		255	Set ratio of YELLOW for single color: orange
7	BROWN	131	Set ratio of CYAN for single color: brown
		255	Set ratio of MAGENTA for single color: brown
		229	Set ratio of YELLOW for single color: brown
4	ALL COL		All the above data are set to the default.



46 - 27

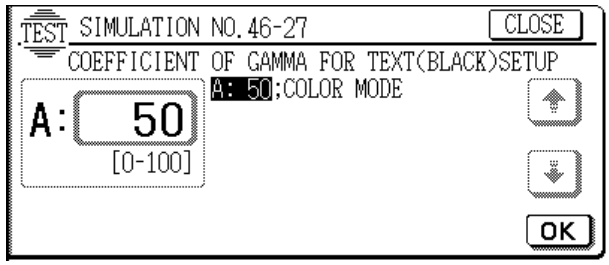
Purpose	Adjustment
Function (Purpose)	Used to adjust the black toner component image gamma. (Adjustment of the reproduction capability of black characters and lines) (AR-C250)
Section	ICU
Item	Picture quality
Operation/ Procedure	1. Enter the adjustment value with the 10-key. 2. Press the [OK] key.

This simulation is used to adjust the reproduction capability of black characters and black lines by varying the gamma of black toner component image. Especially thin black characters and lines are affected by this adjustment.

Note that the black toner component image quantity differs depending on each copy mode. When checking the result of this adjustment, therefore, be careful of the selected copy mode. It is advisable to use the Text/Printed Photo copy mode for this adjustment.

The black toner component ratio is greatest in the Text copy copy mode, and smallest in the Photo mode. The greater the adjustment value is, the darker the black toner component image is, and vice versa. Normally set to 50 (Default).

Disp PosNo.	Disp Chara	Default Value	Min Value	Max Value	Contents
A	COLOR MODE	50	0	100	Set value of calculation coefficient of black text engine, gamma curve (color)

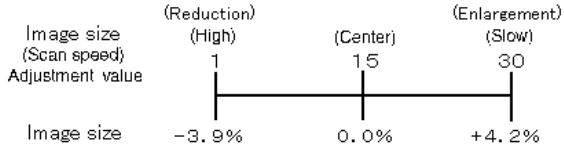


48

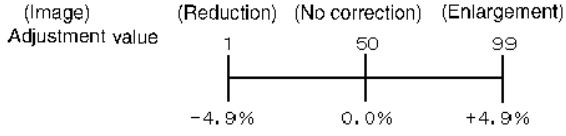
48 - 1

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy magnification ratio (main scan, sub scan direction).
Item	Picture quality / Image size/Magnification
Operation/ Procedure	1. Select the adjustment mode with [↑], [↓] keys. 2. Enter the adjustment value with the 10-key.

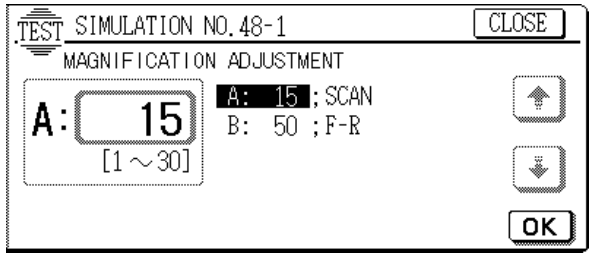
3. Press the [OK] key.
   The value entered in procedure 2 is set.
   a. Sub scan direction magnification ratio --- (SCAN)
      The horizontal print magnification ratio (in the paper transport direction) of the image is adjusted by changing the scan speed in the paper transport direction.
      [Adjustment range] : 1 – 30 (Default: 15)
      [Adjustment unit] : 0.28 [%/count]



   b. Main scan direction magnification ratio --- (F-R)
      The vertical print magnification ratio (front frame to near frame) is adjusted in the image process section by the software operation.
      [Adjustment range] : 1 – 99 (Default: 50)
      [Adjustment unit] : 0.1 [%/count]



   (When the set value is changed by 1, the magnification ratio is changed by about 0.1%.)
   Default: 50
   For C – F, there is no need to adjust.
   C: Resist adjustment (BLACK) --- (for ICU lack system)
   D: Resist adjustment (CYAN) --- (for ICU lack system)
   E: Resist adjustment (MAGENTA) --- (for ICU lack system)
   F: Resist adjustment (YELLOW) --- (for ICU lack system)



(C – F default: 50)

48 - 6

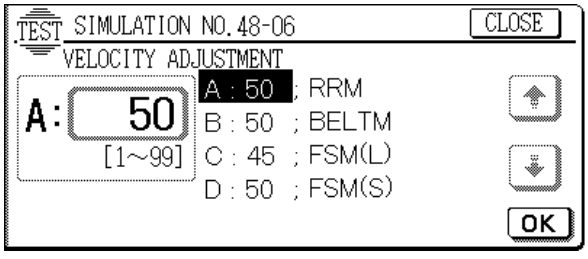
Purpose	Adjustment
Function (Purpose)	Used to adjust each motor rotating speed.
Item	Operation
Operation/ Procedure	1. Select the motor to be adjusted with [↑], [↓] keys. 2. Enter the adjustment value with the 10-key. 3. Press the [OK] key.

A. RRM Resist motor speed correction value
B. BELTM Belt transport motor speed correction value
C. FSM (L) Fusing motor speed correction value (Larger than B4)
D. FSM (S) Fusing motor speed correction value (Smaller than B4)
E. DM(BK) Drum motor speed correction value (Black)
E. DM(CL) Drum motor speed correction value (Color)

The speed is adjusted in the range of 1 – 99 with 50 as the reference value.

RPM: The smaller the set value is, the slower the speed is. ±1 for about 0.1% change
BELTM: The smaller the set value is, the slower the speed is. ±1 for about 0.1% change
FSM (L): FSM(L)The smaller the set value is, the slower the speed is. ±1 for about 0.1% change
FSM (S): FSM(S)The smaller the set value is, the slower the speed is. ±1 for about 0.1% change
DM(BK): DM(BK)The smaller the set value is, the higher the speed is. ±1 for about 0.15% change
DM(CL): DM(CL)The smaller the set value is, the higher the speed is. ±1 for about 0.15% change

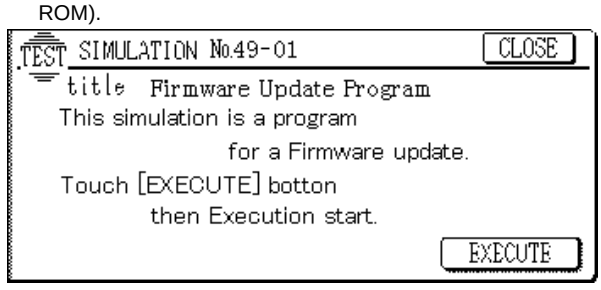
Item	Default	
	AR-C100/C150	AR-C250
A. RRM	55	55
B. BELTM	51	51
C. FSM(L)	45	(JAPAN:50 EX JAPAN:40)
D. FSM(S)	40	(JAPAN:45 EX JAPAN:40)
E. DM(BK)	42	42
F. DM(CL)	37	37



49

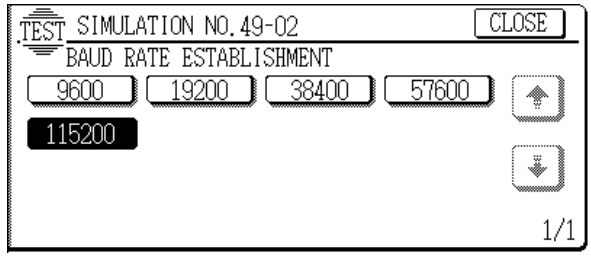
49 - 1

Purpose	Other
Function (Purpose)	Used to revise the version of the body firmware. (AR-C150/C250)
Section	ICU
Item	Software
Operation/ Procedure	1. When the [EXECUTE] key is pressed, the mode enters the download mode (writing into the Flash ROM). 2. Start a download program (for writing into the Flash ROM) on the PC side, and perform downloading (writing into the Flash ROM).



49 - 2

Purpose	Setting
Function (Purpose)	Used to set the data communication speed in version up of the body firmware.
Section	ICU
Item	Operation
Operation/ Procedure	Press the key corresponding to the data communication speed of the PC. Unit (bps: bit per second)



50

50 - 1

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the void area (image loss) on print paper in the copy mode. (The similar adjustment can be made also by SIM 50-2 (Simple method).)
Item	Picture quality Image position
Operation/ Procedure	1. Select the adjustment item with [↑] [↓] keys. 2. Enter the adjustment value with the 10-key. 3. Press the [OK] key.

A. Document lead edge distance --- (RRC-A)
This set value is used to adjust timing from when the document scanning is started to when the image lead edge signal (SCAN signal) is supplied.
(0 – 99: Reference value 50) (Default value: 50)

B. Paper lead edge time --- (RRC-B)
Used to adjust timing of turning on the resist roller after receiving the resist signal (LD_START).
(0 – 99: Reference value 50) (Default value: 50)

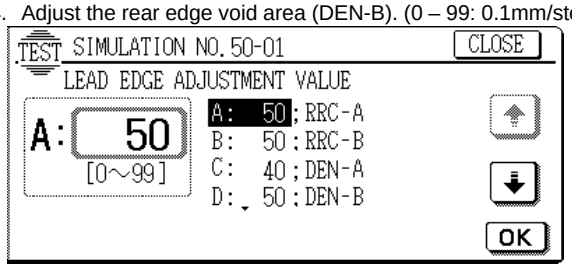
C. Lead edge void area --- (DEN-A)
Used to specify the void area at the lead edge of the document. (0 – 99: Reference value 40) (Default value: 40)

D. Rear edge void area --- (DEN-B)
Used to specify the void area at the rear edge of the document. (0 – 99: Reference value 30) (Default value: 30)

E. Lead edge image loss --- (IMAGE LOSS)
Used to specify the image loss.
(0 – 99: Reference value 40) (Default value: 40)

Actual adjustment procedures

1. Set the lead edge image loss (IMAGE LOSS) and the lead edge void area (DEN-A) to the opitoonal values.
(0 – 99/ 0.1mm/step)
2. Adjust the document lead edge distance (RRC-A) so that the lead edge image loss of an actual copy image becomes the value set in procedure 1. (0 – 99: 0.24mm/step)
3. Adjust RRC-B so that the lead edge image loss of an actual copy image becomes the value set in procedure 1.
(0 – 99: 0.12mm/step)
4. Adjust the rear edge void area (DEN-B). (0 – 99: 0.1mm/step)



50 - 2

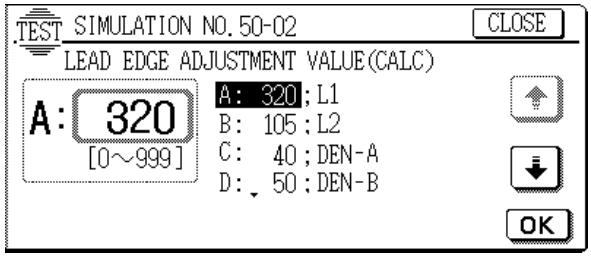
Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the void area (image loss) on print paper in the copy mode.(Simple method) (The same content of SIM 50-1. However this simulation is easier to perform.)
Item	Picture quality Image position
Operation/ Procedure	1. Select the adjustment item with [↑] [↓] keys. 2. Enter the adjustment value with the 10-key.

3. Press the [OK] key.
This simulation is used to perform the lead edge adjustment by directly entering the lead edge shift in 400% copy.

	Default value
A. Document lead edge distance --- (L1)	0
B. Paper lead edge time --- (L2)	0
C. DEN-A	40
D. DEN-B	30
E. IMAGE LOSS	40

Actual adjustment procedures

1. Set the lead edge image loss (IMAGE LOSS) and the lead edge void area (DEN-A) to the opitoonal values.
(0 – 99/ 0.1mm/step)
2. Set L1/L2 to 0.
3. Make a copy at 400% with OC, and enter the shift amount to L1/L2. (0 – 999: 0.1mm/step)
4. Repeat procedure 3 so that the paper lead edge void area of actual copy becomes the value set in procedure 1.
5. Adjust the rear edge void area (DEN-B). (0 – 99: 0.1mm/step)



50 - 10

Purpose	Adjustment
Function (Purpose)	Used to adjust the print image center position. (Adjusted separately for each paper feed section.)
Section	ICU
Item	Picture quality Image position
Operation/ Procedure	1. Select the adjustment item (paper feed section) with [↑], [↓] keys.

2. Enter the adjustment value with the 10-key.
3. Press the [OK] key to set the adjustment value entered in procedure 1.
When the set value is increased, shift is made backward. When decreased, forward.
When the set value is changed by 1, the shift is changed by about 0.1mm.
When the [EXECUTE] key is pressed, self print of the print off center adjustment pattern is performed.

To perform G: ADU adjustment, the ADU must be installed.
In this case, "K: DUPLEX" must be set to 2.

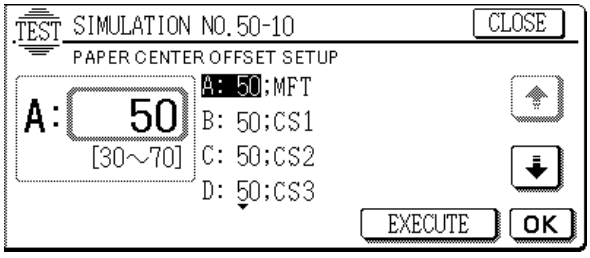
* Print off center adjustment value: 0.1mm/count

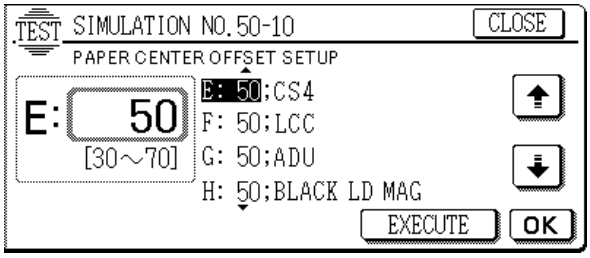
ICU data

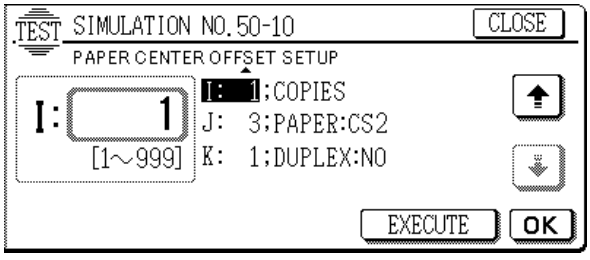
Disp PosNo.	Disp Chara	Default value	Min Value	Max Value	Contents
A	MFT	50	30	70	Print off center adjustment value (Manual feed tray)
B	CS1	50	20	70	Print off center adjustment value (Copier cassette 1)
C	CS2	50	20	70	Print off center adjustment value (Copier cassette 2)
D	CS3	50	20	70	Print off center adjustment value (Copier cassette 3)
E	CS4	50	20	70	Print off center adjustment value (Copier cassette 4)
F	LCC	50	30	70	Print off center adjustment value (LCC)
G	ADU	30	20	70	Print off center adjustment value (ADU)
H	BLACKLD MAG	100	1	199	Main scanning direction print magnification ratio adjustment Vco (BLACK)

PCU data

Disp PosNo.	Disp Chara	Min Value	Max Value	Contents
I	COPIES	1	999	Print quantity
J	PAPER: MANUAL PAPER: CAS1 PAPER: CAS2 PAPER: CAS3 PAPER: CAS4 PAPER: LCC	1	6	Print paper tray selection
K	DUPLEX:NO DUPLEX: YES	1	2	Duplex print selection







50 - 12

Purpose	Adjustment
Function (Purpose)	Used to adjust the print image center position. (Adjusted separately for each document mode.)
Section	ICU
Item	Picture quality Image position
Operation/ Procedure	1. Select the adjustment item (paper feed section) with [↑], [↓] keys.

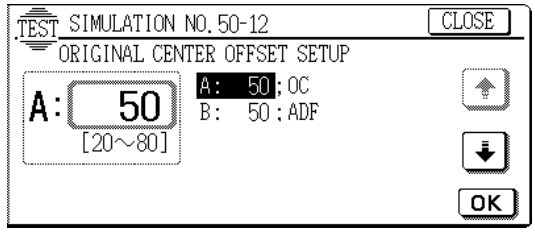
2. Enter the adjustment value with the 10-key.
3. Press the [OK] key to set the adjustment value entered in procedure 1.
   When the set value is increased, shift is made backward. When decreased, forward.

When the set value is changed by 1, the shift is changed by about 0.1mm.

Default: 50

* Document off center adjustment value: 0.1mm/count

Disp PosNo.	Disp Chara	Default value	Min Value	Max Value	Contents
A	OC	50	20	80	Document off center adjustment value (OC)
B	ADF	50	20	80	Document off center adjustment value (RADF)

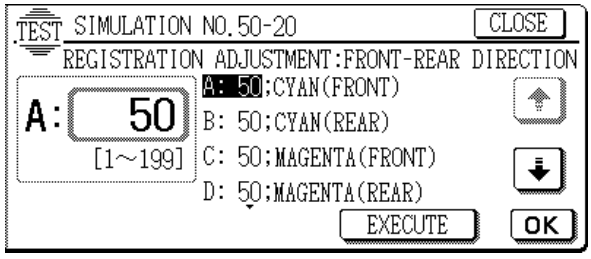


50 - 20

Purpose	Adjustment
Function (Purpose)	Used to adjust color registration in the main scan direction.
Item	Picture quality Image position
Operation/ Procedure	1. Select the adjustment item and the set item with [↑], [↓] keys. 2. Enter the adjustment value and the set item with the 10-key.

3. Press the [OK] key to set the adjustment value and the set item entered in procedure 1.
   When the [EXECUTE] key is pressed, the main scan direction registration adjustment pattern is printed.

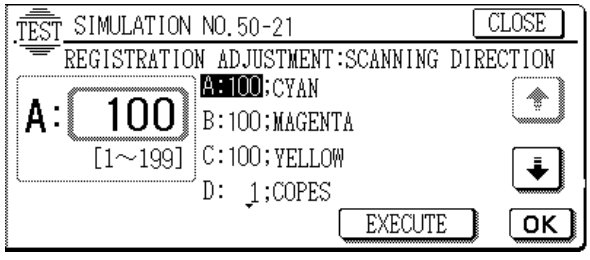
Item	Display	Low	High	Default value	Description
A	CYAN(FRONT)	1	199	100	Tandem adjustment value main scan direction (Cyan laser write start)
B	CYAN(REAR)	1	199	100	Magnification ratio adjustment value main scan direction (Cyan laser)
C	MAGENTA(FRONT)	1	199	100	Tandem adjustment value main scan direction (Magenta laser write start)
D	MAGENTA(REAR)	1	199	100	Magnification ratio adjustment value main scan direction (Magenta laser)
E	YELLOW(FRONT)	1	199	100	Tandem adjustment value main scan direction (Yellow laser write start)
F	YELLOW(REAR)	1	199	100	Magnification ratio adjustment value main scan direction (Yellow laser)
G	COPIES	1	999	1	Copy quantity
H	PAPER :	1	6	3	The display is changed over depending on the paper tray selected and the entered value.
	: MANUAL			1	Manual feed selection
	: CAS1			2	Cassette 1
	: CAS2			3	Cassette 2 (Default)
	: CAS3			4	Cassette 3
	: CAS4			5	Cassette 4
	: LCC			6	LCC selection



50 - 21

Purpose	Adjustment
Function (Purpose)	Used to adjust the sub scan direction color registration.
Item	Picture quality Image position
Operation/ Procedure	1. Select the adjustment item and the set item with [↑], [↓] keys. 2. Enter the adjustment value and the set item with the 10-key. 3. Press the [OK] key to set the adjustment value and the set item entered in procedure 1. When the [EXECUTE] key is pressed, the main scan direction registration adjustment pattern is printed.

Item	Display	Low	High	Default value	Description
A	CYAN	1	199	100	Tandem adjustment value sub scan direction (Black drum → Cyan drum)
B	MAGENTA	1	199	100	Tandem adjustment value sub scan direction (Cyan drum → Magenta drum)
C	YELLOW	1	199	100	Tandem adjustment value sub scan direction (Magenta drum → Yellow drum)
D	COPIES	1	999	1	Copy quantity
E	PAPER :	1	6	3	The display is changed over depending on the paper tray selected and the entered value.
	: MANUAL			1	Manual feed selection
	: CAS1			2	Cassette 1
	: CAS2			3	Cassette 2 (Default)
	: CAS3			4	Cassette 3
	: CAS4			5	Cassette 4
	: LCC			6	LCC selection



50 - 22

Purpose	Adjustment
Function (Purpose)	Used to adjust the color registration (in the main/sub scanning direction). The color registration adjustment (automatic adjustment) can be performed both in the main and the sub scanning directions at the same time. (AR-C250) (New version of AR-C150)
Item	Picture quality
Operation/ Procedure	1. Press the [EXECUTE] key. The color registration adjustment pattern is printed out.

2. Check the color registration quantity. If it is not in the specified range (±1), perform the following procedures.

If the color registration quantity is within the specified range, terminate the simulation.

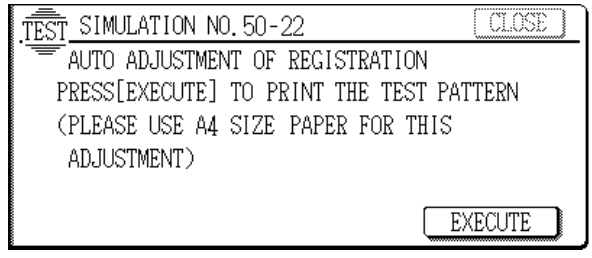
3. Set the printed color registration adjustment pattern on the document table.

Set the color registration adjustment pattern so that the triangle mark come at the center of the left side. Place five sheets of white paper on the adjustment pattern.

4. Press the [EXECUTE] key.

The color registration pattern is read and the color registration adjustment is automatically performed.

It takes about 30 sec.



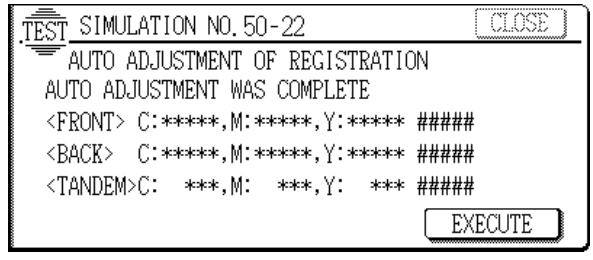
The adjustment result (adjustment value, adjustment level) is displayed.

EXACT: Normaly completed the adjustment.

ROUGH: The accuracy of the adjustment is lower than EXACT due to dusts, dirt, improper setting of the check (adjustment) pattern, etc.

ERROR: Adjustment error due to reading error.

When ERROR is displayed, the reading operation and the result of the ajdustment are erroneous.



If the adjustment has not been performed normally, investigate for the causes and repair as needed. Then perform the adjustment (procedures 1 – 4) again.

If this adjustment will not work properly, execute the manual adjustment with SIM 50-20/21.

51

51 - 1

Purpose	Adjustment
Function (Purpose)	Used to adjust the transfer operation and ON timing of the transfer section separation pawl.
Section	Image process (Photoconductor/ Developing/Transfer/ Cleaning) Copy
Item	Operation
Operation/ Procedure	1. Select the adjustment item with [↑], [↓] keys. 2. Enter the adjustment value with the 10-key.

3. Press the [OK] key. (The value entered in procedure 1 is set.)

A: Separation pawl timing
Used to set the time interval from RRC ON timing to BPSS ON.
Set range: 30 – 550 [ms]

B: Transfer output start adjustment value
Used to set the time interval [ms] from RRC ON to K (Black) transfer output start.
Set range: 1 – 990 [ms]
Setting is made in the increment of 1ms on the display, however in the increment of 10ms in internal process.

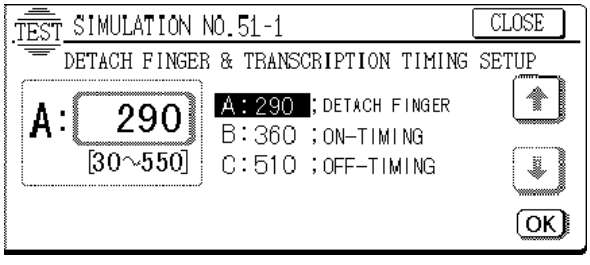
C: Transfer output end adjustment value
Used to set the time interval [ms] from PS-STM stop to K (black) transfer output end.
Set range: 1 – 990 [ms]

Setting is made in the increment of 1ms on the display, however in the increment of 10ms in internal process.

When this simulation is executed, the current set value is displayed.

When the initial value or any value out of the specified range are set, the operation is made with the values shown below.

A: DETACH FINGER 290[ms] (Default value)
B: TRANSMIT-ON 360[ms] (Default value)
C: TRANSMIT-OFF 510[ms] (Default value)



51 - 2

Purpose	Adjustment
Function (Purpose)	Used to adjust the contact pressure of paper on the resist roller of each section (each paper feed and duplex feed of the copier). (This adjustment is required when the print image position variations are considerably great or when paper jams occur frequently.)
Section	Paper transport (Discharge/Switchback/Transport)
Item	Operation
Operation/ Procedure	1. Select the adjustment mode with [↑],[↓]keys. 2. Enter the adjustment value with the 10-key.

3. Press the [OK] key. (The value entered in procedure 2 is set.)

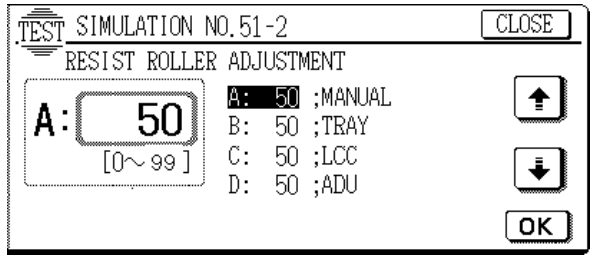
Used to set the resist roller clutch (RRC) ON timing.
When the set value is increased, the timing is delayed and the paper pressure onto the resist roller is increased. When the set value is changed by 1, the timing is changed by about 1.0msec.
The set range is 0 – 99 for all.

MANUAL Resist quantity adjustment in manual paper feed (Default: 60)
Resist quantity in the machine tray paper feed Adjustment (Default: 60)

TRAY Resist quantity in high speed transport in the copier and the desk paper feed.

LCC Resist quantity adjustment in high speed transport in LCC paper feed. (Default: 70) (AR-C150/C250)

ADU Resist quantity adjustment in ADU paper feed. (Default: 70) (AR-C150/C250)



52

52 - 1

Purpose	Adjustment
Function (Purpose)	Used to adjust the duplex print mode stacking capacity (Used to adjust the stop position of the duplex unit paper tray width alignment plate. The home position of the width alignment plate is changed by software.) (AR-C150/C250)
Section	Duplex
Item	Operation
Operation/ Procedure	1. Select mode F with [↑], [↓] keys. 2. Enter the number of the paper tray where A4 or 11" × 8.5" paper is loaded with the 10-key.

3. Enter the adjustment value with the 10-key.
4. Press the [EXECUTE] key.
5. Press the [OK] key.

If there is no paper on the duplex tray, paper feed from the selected paper tray is performed and one sheet of paper is transported to the duplex tray. Then the value set in procedure 3 is set and the alignment plate is operated according to the home position corresponding to the set value.

When the set value is changed by "1", it is changed by about 0.2mm.
When the set value is increased, the alignment plate paper width is decreased.
The set value is in the range of ±50 with 50 at the center.

Set item

A – E: Alignment plate adjustment value (Default value: 50)

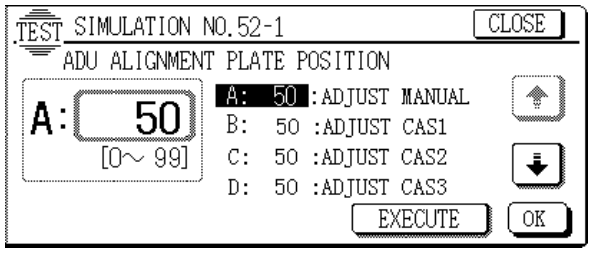
Set item

A – E:

Alignment plate adjustment value

F: Paper feed selection (Default value: 3)

1. Manual feed
3. Cassette 1
4. Cassette 2
5. Cassette 3
6. LCC



53

53 - 1

Purpose	Adjustment
Function (Purpose)	Used to adjust the document stop position in each operation mode of ADF/RADF. (AR-C150/C250)
Section	ADF/RADF/UDH/SPF
Item	Operation
Operation/ Procedure	1. Select the adjustment mode with [↑], [↓] keys. 2. Enter the adjustment value with the 10-key.

3. Press the [OK] key.
   The value entered in procedure 2 is set.

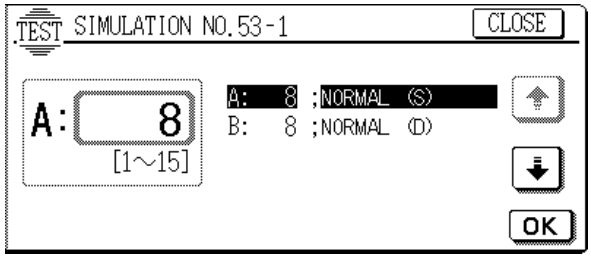
This is used to set the document transport belt stop timing.

NORMAL(S): Normal paper single copy stop position adjustment value

NORMAL(D): Normal paper duplex copy stop position adjustment value

[Descriptions on set value]

08: ±0.000mm	00: –8.000mm	09: + 1.000mm
(Default)	01: –7.000mm	10: + 2.000mm
	02: –6.000mm	11: + 3.000mm
	03: –5.000mm	12: + 4.000mm
	04: –8.000mm	13: + 5.000mm
	05: –8.000mm	14: + 6.000mm
	06: –8.000mm	15: + 7.000mm
	07: –8.000mm	



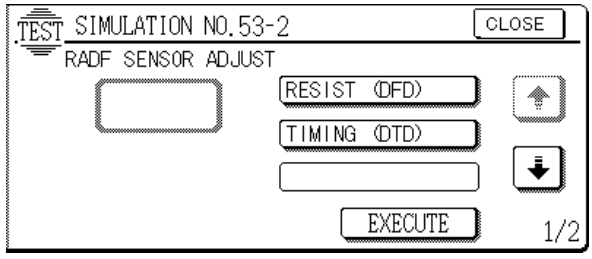
53 - 2

Purpose	Adjustment
Function (Purpose)	Used to adjust the optical sensor sensitivity in ADF/RADF. (AR-C150/C250)
Section	ADF/RADF/UDH/SPF
Item	Operation
Operation/ Procedure	1. The sensor names are displayed. Select the sensor to be adjusted with the key.

2. Press the [EXECUTE] key.
   The adjustment of the sensor selected in procedure 1 is started. During execution of the adjustment, the [EXECUTE] key is highlighted. If the [EXECUTE] key is pressed under this state, the adjustment can be interrupted.

After completion of the adjustment, the COMPLETE display is shown.
In case of an abnormality, the INCOMPLETE display is shown.

REGIST (DFD) Resist sensor
TIMING (DTD) Timing sensor
REVERSE (RDD) Paper exit/reverse sensor

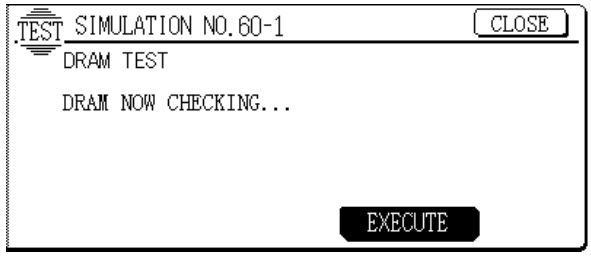


60

60 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation (read/write) of the ICU main PWB (image DRAM).
Section	ICU
Item	Operation
Operation/ Procedure	1. Press the [EXECUTE] key to check the read/write operations.

2. After completion of the read/write operation check, the check result is displayed with OK or NG.



61

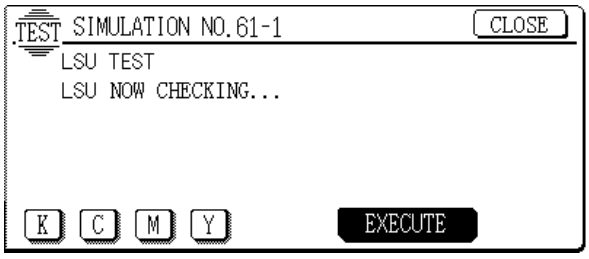
61 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner (exposure) unit.
Section	Laser (Exposure)
Item	Operation
Operation/ Procedure	1. Select the unit (K, C, M, Y) to be checked. 2. Press the [EXECUTE] Key The scanner unit is started.

3. After completion of check operation, the result is displayed with OK or NG.

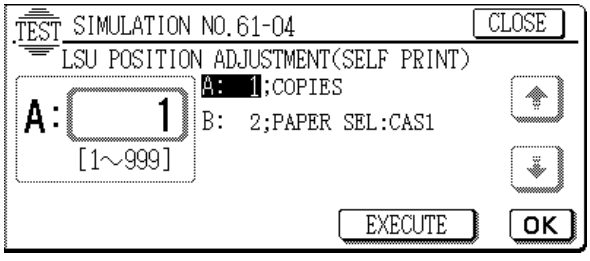
   Used to check whether the sync signal (HSYNC/) is normally outputted or not by operating the laser (exposure) unit (laser motor rotation, laser emission).

* When the [EXECUTE] key is pressed without selecting the unit, all units are checked.



61 - 4

Purpose	Adjustment
Function (Purpose)	Used to adjust skew of the scanner (writing) unit laser beam.
Section	Laser (Exposure)
Item	Operation
Operation/ Procedure	1. Select the adjustment mode with [↑], [↓] keys. 2. Enter the adjustment value with the 10-key. 3. Press the [OK] key. The value entered in procedure 2 is set. 4. Press the [EXECUTE] key to print the scanner unit position adjustment pattern.

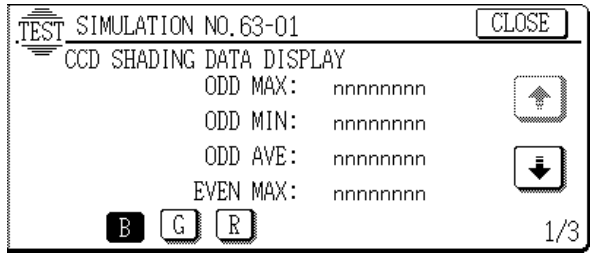


63

63 - 1

Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the result of shading correction. (The shading correction data is displayed.)
Section	Laser (Exposure)
Item	Operation
Operation/ Procedure	Used to display the result of latest shading correction. The displayed page can be shifted with [↑], [↓] keys. Each color data can be checked with the color keys.

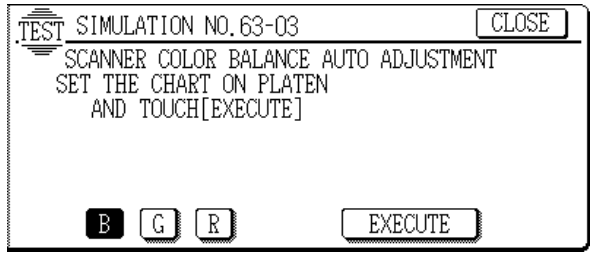
Description on display item	
Display item	Content
ODD MAX	Shading odd number max. value/blue
ODD MIN	Shading odd number min. value/blue
ODD AVE	Shading odd number average value/blue
EVEN MAX	Shading even number max. value/blue
EVEN MIN	Shading even number min. value/blue
EVEN AVE	Shading even number average value/blue
ODD/EVEN OFFSET	CCD odd number offset value/blue
BLACK OFFSET	CCD even number offset value/blue
ADJUST ODD GAIN	CCD odd number gain value/blue
ADJUST EVEN GAIN	CCD even number gain value/blue
ODD MAX	Shading odd number max. value/green
ODD MIN	Shading odd number min. value/green
ODD AVE	Shading odd number average value/green
EVEN MAX	Shading even number max. value/green
EVEN MIN	Shading even number min. value/green
EVEN AVE	Shading even number average value/green
ODD/EVEN OFFSET	CCD odd number offset value/red
BLACK OFFSET	CCD even number offset value/red
ADJUST ODD GAIN	CCD odd number gain value/red
ADJUST EVEN GAIN	CCD even number gain value/red



63 - 3

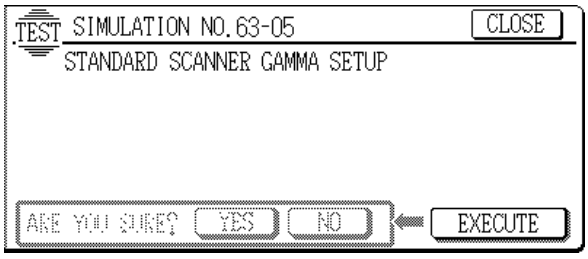
Purpose	Adjustment
Function (Purpose)	Used to adjust CCD color balance (gamma). (Normal document mode)
Section	Optical (Image scanning)
Item	Picture quality Color balance
Operation/ Procedure	Set the SIT chart (UKOG-0280FCZZ) on the document table and press the [EXECUTE] key. Reading of the automatic adjustment pattern of color coefficient is started and the color coefficient data are calculated and displayed.

By pressing each color key, the color coefficient data of the color is displayed.



63 - 5

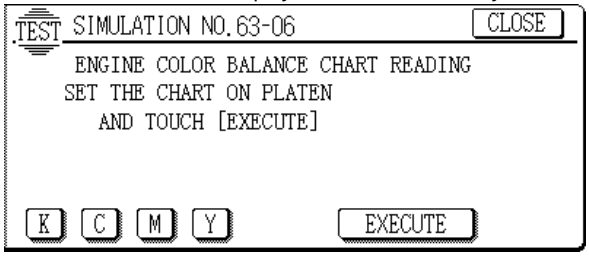
Purpose	Setting
Function (Purpose)	Used to set CCD color balance (gamma) default.
Section	Optical (Image scanning)
Item	Picture quality Color balance
Operation/ Procedure	1. Press the [EXECUTE] key, and the [YES] and [NO] keys are highlighted. 2. Press the [YES] key, and the CCD color balance value is set to the default.



63 - 6

Purpose	Adjustment/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the color balance (gamma) adjustment. (Check patch)
Section	ICU
Item	Picture quality Color balance
Operation/ Procedure	1. Press the [EXECUTE] key, and set the color balance check patch printed in SIM 46-21 to the original table.

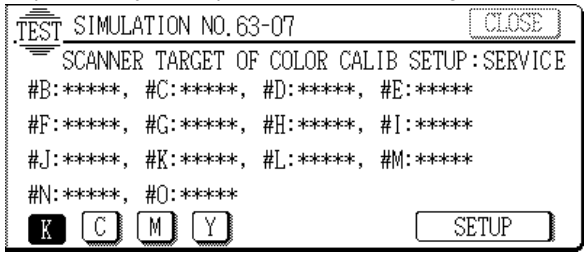
2. Scannig is started and the data are displayed on the display.
3. The automatic adjustment pattern of the engine color balance in each color can be displayed with each color key.



63 - 7

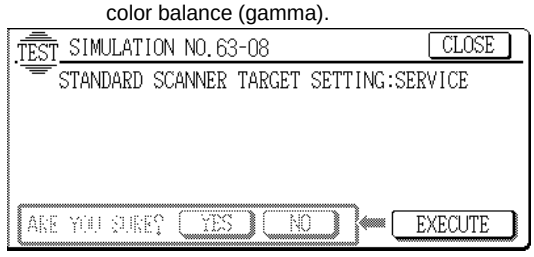
Purpose	Setting
Function (Purpose)	Used to set the target color balance (gamma) for auto color balance adjustment. The standard color balance (gamma) or an optional color balance (gamma) is set as the service target. (AR-C150/C250)
Item	Picture quality Color balance
Operation/ Procedure	1. In the copy color balance adjustment (manual adjustment) (SIM 46-21) mode, the color patch image (adjustment pattern) is outputted. (This must be adjusted properly.)

2. Press the SETUP key.
3. Set the color patch image (adjustment pattern) paper printed in the copy color balance adjustment (manual adjustment) (SIM 46-21) mode on the original table.
4. Press the [EXECUTE] key.
   The color patch image (adjustment pattern) is read.
5. Press the REPEAT key and perform procedure 4) again.
6. Press the [OK] key.
   The color balance corresponding to the color patch image (adjustment pattern) printed in the copy color balance adjustment (manual adjustment) is set as the service target.



63 - 8

Purpose	Setting
Function (Purpose)	Used to set the target color balance (gamma) for auto color balance adjustment (SIM 46-24). The service target is set to the default (standard) color balance (gamma).
Item	Picture quality Color balance
Operation/ Procedure	1. Press the [EXECUTE] key. 2. Press the YES key. The service target is set to the default (standard) color balance (gamma).



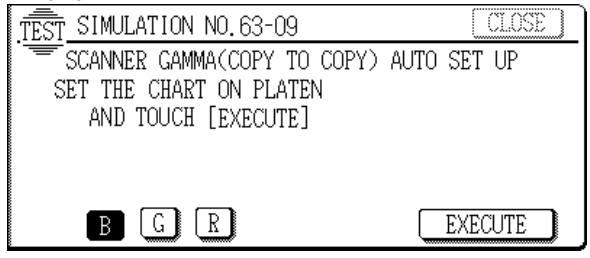
63 - 9

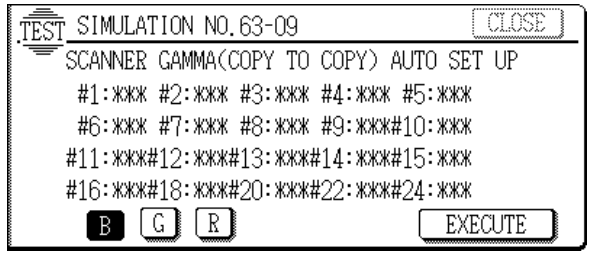
Purpose	Setting
Function (Purpose)	Used to adjust the CCD color balance (gamma). (Copy document mode) (AR-C250)
Section	Optical (Image scanning)
Item	Picture quality
Operation/ Procedure	1. Place an SIT chart (UKOG-0280FCZZ) on the document table, and make a copy in the TEXT/Printed Photo mode.

2. Set the copy of the SIT chart on the document table.
3. Enter the simulation mode of SIM 63-9.
4. Press the [EXECUTE] key.

The automatic adjustment pattern of the color coefficient is read to calculate and display the color coefficient data.

By pressing each color key, the color coefficient data of the color is displayed.



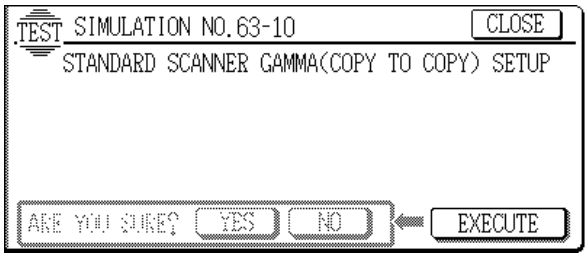


63 - 10

Purpose	Setting
Function (Purpose)	Used to set the default of the CCD color balance (gamma). (Copy document mode) (AR-C250)
Section	Optical (Image scanning)
Item	Picture quality

Operation/ Procedure	1. When the [EXECUTE] key is pressed, the [YES] and [NO] keys become active. 2. When the [YES] key is pressed, the CCD color balance value is set to the default.

3. Enter the simulation mode of SIM 63-9.



64

64 - 1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation (self print) of the printer section. (The print pattern, the paper feed mode, the print mode, the print quantity, and the density can be set optionally.)
Section	Printer
Item	Operation
Operation/ Procedure	1. Select the item with [↑], [↓] keys. 2. Enter the print conditions with the 10-key. 3. Press the [EXECUTE] Key. The self print pattern is printed. The print color can be specified: [K] black, [C] cyan, [M] magenta, [Y] yellow.

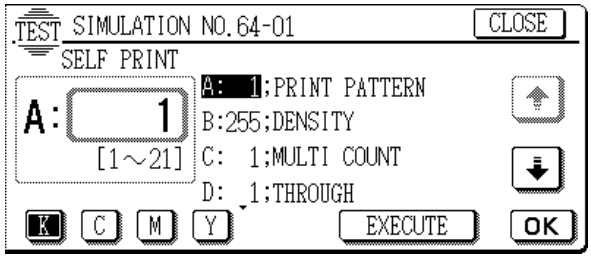
(AR-C100/C150)

Item	Display item		Low	Hight	Default value	Description
A	PRINT PATTERN		1	21	1	Self print pattern
	= 1					Gradation sub scan direction (input process)
	= 2					Gradation main scan direction (input process)
	= 3					Grid (input process)
	= 4					Gradation pattern: 255, 0 – 254, in the increment of 1 step
	= 5					Grid (half tone)
	= 6					Gradation sub scan direction (half tone): 16 steps 16 gaps 15 start
	= 7					Gradation main scan direction (half tone): 16 steps 16 gaps 15 start
	= 8					Equal pitch pattern sub scan direction 1 by 4
	= 9					Equal pitch pattern main scan direction 1 by 4
	=10					Equal pitch pattern sub scan direction 2 by 4
	=11					Equal pitch pattern main scan direction 2 by 4
	=12					Gradation sub scan direction (half tone): 16 steps 2 gaps
	=13					All surface (HT)
	=14					Cross pattern (sub scan direction color change: YMCK)
	=15					Cross pattern (main scan direction color change: YMCK)
	=16					8-color print (C, M, Y, MY, CY, CM, CMY, K) main scan direction
	=17					Each color 10% (A4, A4R) density print
	=18					Dot print (input process)
	=19					Gradation pattern: 255, 0 – 254, in the increment of 1 step (Not operating)
	=20	*				ICU monitor software setting: for LSU memory (without input DMA starting) (Not operating)
	=21	*				ICU monitor software setting: for PG (with input DMA starting) (Not operating)
B	DENSITY		1	255	255	Gradation level
C	MULTI COUNT		1	999	1	Self print quantity setting
D	EXPO:		1	9	1	Density mode
	= 1	THROUGH				Without process (Without filter process)
	= 2	CHAR/PIC AUTO				Text/Photo Auto
	= 3	CHAR/PIC MANUAL				Text/Photo Manual
	= 4	CHAR AUTO				Text Auto
D	= 5	CHAR MANUAL				Text Manual
	= 6	PRINT PIC				Printed Photo
	= 7	PRINT PAPER				Photograph
	= 8	MAP				Map
	= 9	STANDARD DITHER				Dither without correction
E	PAPER:		1	6	3	Cassette selection
	= 1	MANUAL				Manual feed
	= 2	CAS1				Cassette 1
	= 3	CAS2				Cassette 2 (Default)
	= 4	CAS3				Cassette 3
	= 5	CAS4				Cassette 4
	= 6	LCC				LCC
F	DUPLEX		1	2	1	Duplex print selection
	= 1	NO				Single
	= 2	YES				Duplex

* : The print pattern 20 & 21 should not be used in the field.

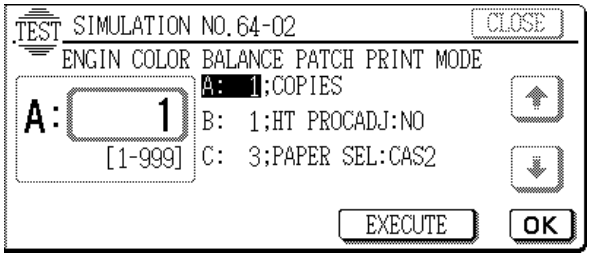
(AR-C250)

Item	Display item		Low	Hight	Default value	Description
A	PRINT PATTERN		1	21	1	Self print pattern
	= 1					Gradation sub scanning direction (input process)
	= 2					Gradation main scanning direction (input process)
	= 3					Grid (input process)
	= 4					Gradation pattern: 255, 0 – 254, increment of 1 gradation
	= 5					Grid (Half tone)
	= 6					Gradation sub scanning direction (Half tone): 16 steps, 16 intervals, 15 start
	= 7					Gradation main scanning direction (Half tone): 16 steps, 16 intervals, 15 start
	= 8					Equal pitch pattern sub scanning direction 1 by 4
	= 9					Equal pitch pattern main scanning direction 1 by 4
	=10					Equal pitch pattern sub scanning direction 2 by 6
	=11					Equal pitch pattern main scanning direction 2 by 6
	=12					Gradation sub scanning direction (Half tone): 16 steps 2 intervals
	=13					All surface (HT)
	=14					Cross pattern (sub scanning direction color change, YMCK)
	=15					Cross pattern (main scanning direction color change, YMCK)
	=16					8-color print (C, M, Y, MY, CY, CM, CMY, K) main scanning direction
	=17					Each color 10% (A4, A4R) density print
	=18					Dot print (input process)
	=19					Gradation pattern: 255, 0 – 254, increment of 1 gradation, (Text 1 × 1)
	=20					For ICU monitor software setup LSU memory (without input DMA start) (Not operating)
	=21					For ICU monitor software setup PG (with input DMA start) (Not operating)
B	DENSITY		1	255	255	Gradation level
C	MULTI COUNT		1	999	1	Self print quantity setting
D	EXPO:		1	11	1	Density mode
	= 1	THROUGH				No process (through)
	= 2	CHAR/PIC AUTO				Test/Printed Photo Auto
	= 3	CHAR/PIC MANUAL				Text/Printed Photo Manual
	= 4	CHAR/PRPIC AUTO				Text/Photo Auto
	= 5	CHAR/PRPIC MANU				Text/Photo Manual
	= 6	CHAR AUTO				Text Auto
	= 7	CHAR MANUAL				Text manual
	= 8	PRINT PIC				Printed Photo
	= 9	PRINT PAPER				Photo
	= 10	MAP				Map
	= 11	STANDARD DITHA				Dither without correction
E	PAPER:		1	6	3	Cassette selection
	= 1	MANUAL				Manual paper feed
	= 2	CAS1				Cassette 1
	= 3	CAS2				Cassette 2 (Default)
	= 4	CAS3				Cassette 3
	= 5	CAS4				Cassette 4
	= 6	LCC				LCC
F	DUPLEX		1	2	1	Duplex print select
	= 1	NO				Single
	= 2	YES				Duplex



64 - 2

Purpose	Adjustment/setup/operation data output, adjustment (display, print)
Function (Purpose)	Used to print the color patch image (adjustment pattern). The above color patch image (adjustment pattern) is outputted according to the currently adjusted color balance (gamma). Use SIM 63-7 to read the color patch image (adjustment pattern), which can be used as the service target of the automatic color balance (gamma) adjustment.
Item	Picture quality Color balance
Operation/ Procedure	1. Select mode A with the scroll key. 2. Enter the print quantity with the 10-key. 3. Press the [OK] key. 4. Select mode C with the scroll key. 5. Enter the paper kind with the 10-key. 6. Press the [OK] key. 7. Select mode B with the scroll key. 8. Enter (select) the print pattern with the 10-key. 9. Press the [OK] key. 10. Press the [EXECUTE] key. The color patch image (adjustment pattern) is outputted.



Set Item B to "1". Print out is made under half tone correction.

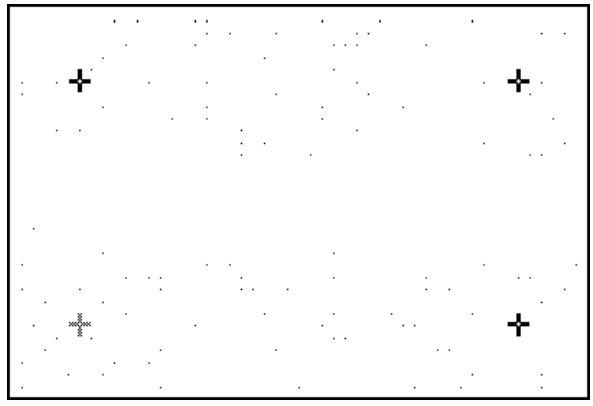
65

65 - 1

Purpose	Adjustment
Function (Purpose)	Used to adjust the touch panel (LCD display section) detection position.
Section	Operation (Display/Operation key)
Operation/ Procedure	Touch the four cross marks. The coordinates at the pressed point are set.

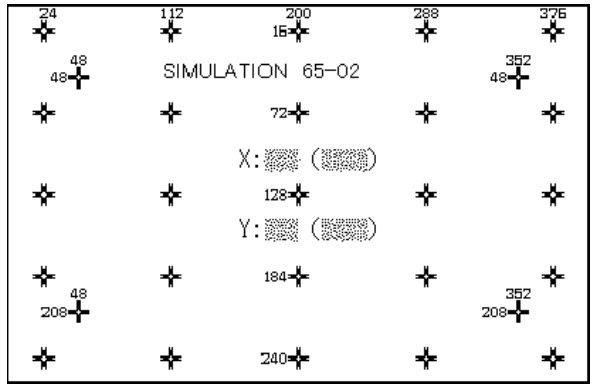
When the coordinates are properly set, the mark "+" on the display turns to gray (blue) and the menu returns to the simulation sub code entry screen.
In case of an abnormality, it returns to the input display.

1. Coordinate X on the left upper of the screen (Default: 258)
2. Coordinate Y on the left upper of the screen (Default: 245)
3. Coordinate X on the right upper of the screen (Default: 831)
4. Coordinate Y on the right upper of the screen (Default: 247)
5. Coordinate X on the left lower of the screen (Default: 257)
6. Coordinate Y on the left lower of the screen (Default: 834)
7. Coordinate X on the right lower of the screen (Default: 831)
8. Coordinate Y on the right lower of the screen (Default: 828)



65 - 2

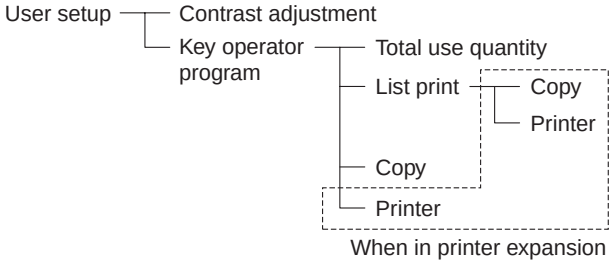
Purpose	Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the result of the touch panel (LCD display) detection position adjustment. (The coordinates are displayed.)
Section	Operation (Display/Operation key)
Operation/ Procedure	When the touch panel is pressed, the AD value in each of X and Y directions at that point and the coordinate values are displayed in ( ) as well as the coordinate values of each point. It is based on the coordinates set with SIM 65-1.



[9] USER PROGRAM

A. Outline

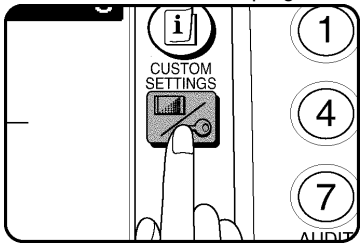
The user program is divided into the following levels.



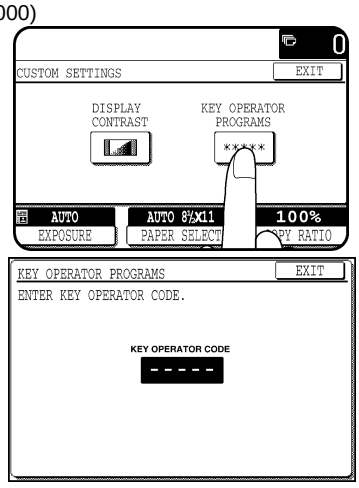
Item		Content
LCD contrast adjustment		Used to adjust the LCD display contrast.
Key operator program		
Total use quantity display		Used to display or print the total use quantity of the machine.
List print	Copy	Used to print the key operator program list and the setup status.
	Printer	
Copy function setup program	Dept. management	Used to realize the machine operation status according to the user's request.
	Function setup	
	Timer setup	
	Inhibition setup	
	Auto calibration (Auto color balance (gamma) adjustment)	

B. Key operator program

1) Touch USER SETUP to enter the user program mode.

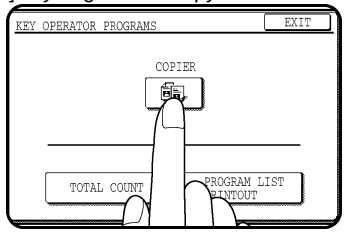


2) Touch KEY OPERATOR PROGRAM on the touch panel.
3) The key operator code is requested to be entered. Enter the code. (Default: 00000)

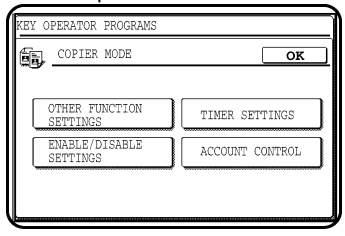


- When an erroneous input is made, an invalid sound is made to cancel the key operator mode and return to the user setup menu.
- When [C] is pressed during entry, all the entered numbers are cleared.
- When [END] or [CA] key is pressed, the mode is canceled.

4) When the key operator code is properly entered, the menu goes to the key operator program menu.
   Touch [COPY] key to go to the copy mode menu.



5) When the copy mode menu is displayed, select the suitable item and make detailed setup.



C. Key operator program list

Mode	Item	Outline	Initial setup
Dept. management	Dept. counter setup	Used to set Enable/Disable of the dept counter.	Disable
	Copy quantity total	Used to print the total copy quantity of each dept. To use this function, the dept. counter must be set to Enable and the dept No. must be registered.	
	Sum total	Used to print the sum total of copy quantity of each dept. To use this function, the dept. counter must be set to Enable and the dept No. must be registered.	
	Total quantity/Sum total erase	Used to reset the total quantity and the sum total to 0. To use this function, the dept. counter must be set to Enable and the dept No. must be registered.	
	Dept. No. setup	Used to register, delete, change, and print the dept No.	
	Copy unit fee setup	Used to set the copy unit fee for all dept. and each dept.	
	Limitation on copy quantity	Used to limit the copy quantity of all dept. and each dept. To use this function, the dept. counter must be set to Enable and the dept No. must be registered.	
	Warning for erroneous entry of dept No.	Used to set Enable/Disable of warning for erroneous input of dept No.	Disable

Mode	Item	Outline	Initial setup
Function setup	Key operator code change	Used to change the key operator code.	00000
	Copy density adjustment	Used to adjust the density level in the automatic density mode. Set range: 2 – 4	3
	Program magnification ratio setup	Used to set two fixed magnification ratios of enlargement and reduction in addition to the ten standard, fixed magnification ratios. Set range: Enlargement (400 – 101)/Reduction (99 – 25%)	
	Toner save mode setup	Used to set ON/OFF of the toner save mode. (Effective only in the monochrome mode.) (Excluding UK and Japan)	OFF
	Copy quantity upper limit setup	Used to set the upper limit of copy quantity. Set range: 1 – 999	999
	Binding margin standard value setup	Used to change the initial set value called in setting the binding margin. * When the ADF is installed, the binding margin of the back surface can also be set. Set range: 0 – 20mm	10
	Edge erase width standard value setup	Used to change the initial set value called when setting the edge erase. Set range: 0 – 20mm	10
	Copy mode standard state setup	Used to set the standard state of the copy mode.	
	Transfer belt initial position (Color/Monochrome mode)	The transfer belt position determines which has priority; the color copy mode or the black-white copy mode in standard standby state. (It relates to the first copy time.)	Color copy
	Color balance	Used to adjust the balance in the density area divided into 8 section of each of C, M, Y, K. Set range: –4 – +4	
	Paper feed tray paper size setup	Used to set so that the tray with special size paper is recognized as the tray with fixed size paper.	All trays "Special"
	Operation inhibit mode setup	Used to set the machine so that it cannot be operated until the key operator code is entered after turning on the power.	Disable
	Stream feeding mode setup (* Only when the ADF is installed)	Used to set so that automatic copy is made when the next document is set within about 5 sec after feeding the previous document set in ADF.	Disable
	Staple sorter bin paper exit quantity limit cancel (* Only when the sorter is installed)	Used to set so that copying is inhibited when the capacity of each bin is exceeded.	Disable
	Transfer Belt Position (AR-C250 only)	Switches the transfer belt to either the B&W side or the color side.	Color copy mode.
Timer setup	Sleep mode setup	Used to set the time to enter the sleep mode. If "Sleep mode inhibit" is set, this function is disabled. Set range: 10 – 240min	60min
	Auto clear time setup	Used to set the auto clear time. If "Auto clear timer inhibit" is set, this function is disabled. Set range: 10 – 240sec (unit: 10sec)	60sec
	Pre-heat mode setup	Used to set the time to enter the pre-heat mode. Set range: 10 – 240min	15min
	Message display time setup	Used to set the display time of temporary messages on the panel center. Set range: 1 – 12sec	6sec
Inhibition setup	Key touch alarm inhibition	Used to set Inhibit/Not inhibit of effective or disable sounds when touching keys.	Not inhibit
	Paper auto selection inhibition	Used to set Inhibit/Not inhibit of paper auto selection	Not inhibit
	Tray auto selection inhibition	Used to set Inhibit/Not inhibit of tray auto selection.	Not inhibit
	Duplex copy manual feed tray inhibition (* Only when the ADF is installed)	Used to set Inhibit/Not inhibit of use of the manual feed tray in duplex copy.	Not inhibit
	Registered copy condition rewrite inhibition	Used to set Inhibit/Not inhibit of rewrite and erase of the copy conditions registered by the copy condition registration function (job program).	Not inhibit
	Document feed unit inhibition (* Only when the ADF is installed)	Used to set Inhibit/Not inhibit of use of the document feed unit.	Not inhibit
	Duplex copy inhibition (* Only when the ADF is installed)	Used to set Inhibit/not inhibit of duplex copy.	Not inhibit
	Staple inhibition (* Only when the sorter is installed)	Used to set Inhibit/Not inhibit of use of the staple unit.	Not inhibit
	Cover paper mode inhibition (* Only when the ADF is installed)	Used to set Inhibit/Not inhibit of cover insertion copy.	Not inhibit
	Copy inhibition when alarming for the size and direction.	Used to set Inhibit/Not inhibit of copy when the paper direction differs from the document direction or the optimum size paper is not set. (Japan only)	Not inhibit
	PC/Modem access allow	Used to Inhibit/Not inhibit of access to PC/Modem (RIC system).	Inhibit
	Sleep mode inhibition	Used to Inhibit/Not inhibit of the sleep mode.	Not inhibit
	Pre-scan inhibition in black and white copy	Used to Inhibit/Not inhibit of pre-scan in black and white copy.	Not inhibit
Auto color calibration (Auto color balance (Gamma) adjustment)		Auto color balance (gamma) adjustment by the user (To display the operation menu of this function, SIM 26-53 must be set to Enable of this function.)	Inhibit (AR-C150) Not inhibit (AR-C250)

[10] SELF DIAG MESSAGE AND TROUBLESHOOTING

5. List

Main code	Sub code	Title (Content)	Section	Operation mode	Remedy	NOTE
A0	0	ROM trouble (PCU MAIN PWB)	PCU MAIN PWB	When POWER ON	Power OFF/ON	
C1	10	Main charger trouble (BLACK)	Image process	Warm-up / Initialize	Power Source-ON	
C1	11	Main charger trouble (CYAN)	Image process	Warm-up / Initialize	Power Source-ON	
C1	12	Main charger trouble (MAGENTA)	Image process	Warm-up / Initialize	Power Source-ON	
C1	13	Main charger trouble (YELLOW)	Image process	Warm-up / Initialize	Power Source-ON	
EE	EL	Toner concentration reference control level setup trouble (Overtoner)	Image process (Developing)	SIM 25-2	Power Source-ON	
EE	EU	Toner concentration reference control level setup trouble (Undertoner)	Image process (Developing)	SIM 25-2	Power source-ON	
E7	1	Image data memory trouble	ICU MAIN PWB	Warm-up / Initialize	Power source-ON	
E7	10	Shading trouble (Black correction)	Scanner (reading) /ICU SCAN PWB	Warm-up / Initialize	Power source-ON	
E7	11	Shading trouble (White correction)	Scanner (reading) /ICU SCAN PWB	Warm-up / Initialize	Power source-ON	
E7	20	Laser beam sensor trouble (BLACK)	Scanner (writing)	All modes	Power source-ON	
E7	21	Laser beam sensor trouble (CYAN)	Scanner (writing)	All modes	Power source-ON	
E7	22	Laser beam sensor trouble (MAGENTA)	Scanner (writing)	All modes	Power source-ON	
E7	23	Laser beam sensor trouble (YELLOW)	Scanner (writing)	All modes	Power source-ON	
E7	24	Laser beam detection trouble (BLACK)	Scanner (writing)	All modes	Power source-ON	
E7	25	Laser beam detection trouble (CYAN)	Scanner (writing)	All modes	Power source-ON	
E7	26	(Laser beam detection trouble (MAGENTA)	Scanner (writing)	All modes	Power source-ON	
E7	27	Laser beam detection trouble (YELLOW)	Scanner (writing)	All modes	Power source-ON	
E7	30	ICU PWB FLASH ROM trouble	ICU MAIN PWB	Warm-up / Initialize	Power source-ON	
E7	90	ICU MAIN PWB - PCU MAIN PWB communication trouble (PCU side detection)	ICU MAIN PWB / PCU MAIN PWB	All modes	Power source-ON	
E8	0	ICU MAIN PWB - PCU MAIN PWB communication trouble (PCU side detection)	ICU MAIN PWB / PCU MAIN PWB	All modes	Power source-ON	
E8	1	ICU MAIN PWB - PCU MAIN PWB communication trouble (PCU side detection)	ICU MAIN PWB / PCU MAIN PWB	All modes	Power source-ON	
F1	0	Communication trouble between PCU MAIN PWB - Finisher control PWB (Detected by PCU MAIN PWB)	PCU MAIN PWB / Finisher control PWB	When power ON / initial operation	Power OFF/ON	
F1	2	Finisher paper exit trouble (Finisher side detection)	Finisher paper exit	When power ON / initial operation	Power OFF/ON	
F1	10	Finisher staple trouble (Finisher side detection)	Finisher stapler	When stapling	Power OFF/ON	
F1	11	Finisher bundle process trouble (Finisher side detection)	Finisher paper exit	When power ON / initial operation	Power OFF/ON	
F1	15	Finisher tray lift trouble (Finisher side detection)	Finisher tray lift	All modes	Power OFF/ON	
F1	19	Finisher alignment trouble (Front side) (Finisher side detection)	Finisher alignment	When POWER ON	Power OFF/ON	

Main code	Sub code	Title (Content)	Section	Operation mode	Remedy	NOTE
F1	20	Finisher alignment trouble (Rear side) (Finisher side detection)	Finisher alignment	When POWER ON	Power OFF/ON	
F1	70	PCU PWB - sorter control PWB communication trouble (PCU detection)	Sorter / PCU MAIN PWB	Warm-up / Initialize	Power source-ON	
F1	80	Sorter power abnormality (Sorter side detection)	Sorter	All modes	Power source-ON	
F1	81	Sorter transport motor trouble (Sorter side detection)	Sorter	Sort/group operation mode	Power source-ON	
F1	83	Sorter push bar motor trouble (Sorter side detection)	Sorter	Initializing	Power source-ON	
F1	87	Sorter staple unit oscillation motor trouble (Sorter side detection)	Sorter	Initializing	Power source-ON	
F1	89	Sorter bin shift motor trouble (Sorter side detection)	Sorter	Sort / Group operation mode	Power source-ON	
F1	91	Bin paper sensor auto adjustment trouble (Sorter side detection)	Sorter	Sort/group operation mode	Power source-ON	
F1	94	Sorter staple key trouble	Sorter	Staple	Power source-ON	
F2	40	Toner concentration sensor trouble (BLACK)	Developing	All modes	Power source-ON	
F2	41	Toner concentration sensor trouble (CYAN)	Developing	All modes	Power source-ON	
F2	42	Toner concentration sensor trouble (MAGENTA)	Developing	All modes	Power source-ON	
F2	43	Toner concentration sensor trouble (YELLOW)	Developing	All modes	Power source-ON	
F2	44	Image density sensor trouble (BLACK) (Transfer belt surface reflection abnormality)	Image process (Transfer)	Image density correction	Power source-ON	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
F2	45	Image density sensor trouble (COLOR) (Calibration plate reflection abnormality)	Image process (Transfer)	Image density correction	Power source-ON	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
F2	50	Drum marking detection trouble (BLACK)	Image process (OPC drum)	OPC drum rotation	Power source-ON	In the case of AR-C100, the error code is displayed (print disabled). In the case of AR-C150/C250, the error code is stored in the trouble memory (print enabled).
F2	51	Drum marking detection trouble (CYAN)	Image process (OPC drum)	OPC drum rotation	Power source-ON	In the case of AR-C100, the error code is displayed (print disabled). In the case of AR-C150/C250, the error code is stored in the trouble memory (print enabled).
F2	52	Drum marking detection trouble (MAGENTA)	Image process (OPC drum)	OPC drum rotation	Power source-ON	In the case of AR-C100, the error code is displayed (print disabled). In the case of AR-C150/C250, the error code is stored in the trouble memory (print enabled).
F2	53	Drum marking detection trouble (YELLOW)	Image process (OPC drum)	OPC drum rotation	Power source-ON	In the case of AR-C100, the error code is displayed (print disabled). In the case of AR-C150/C250, the error code is stored in the trouble memory (print enabled).
F2	54	Drum marking sensor gain adjustment error (BLACK)	Image process (OPC drum)	Image density correction	Power source-ON	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
F2	55	Drum marking sensor gain adjustment error (CYAN)	Image process (OPC drum)	Image density correction	Power source-ON	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
F2	56	Drum marking sensor gain adjustment error (MAGENTA)	Image process (OPC drum)	Image density correction	Power source-ON	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.

Main code	Sub code	Title (Content)	Section	Operation mode	Remedy	NOTE
F2	57	Drum marking sensor gain adjustment error (YELLOW)	Image process (OPC drum)	Image density correction	Power source-ON	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
F2	58	Process humidity sensor trouble	Image process (Transfer)	All modes	Power source-ON	In the case of AR-C100, the error code is displayed (print disabled). In the case of AR-C150/C250, the error code is stored in the trouble memory (print enabled).
F2	63	Temperature sensor trouble (Image process)	Image process	All modes	Power source-ON	In the case of AR-C100, the error code is displayed (print disabled). In the case of AR-C150/C250, the error code is stored in the trouble memory (print enabled).
F2	80	Half tone correction (1st patch) trouble (BLACK)	Image process	Image density correction	Power source-ON	
F2	81	Half tone correction (1st patch) trouble (CYAN)	Image process	Image density correction	Power source-ON	
F2	82	Half tone correction (1st patch) trouble (MAGENTA)	Image process	Image density correction	Power source-ON	
F2	83	Half tone correction (1st patch) trouble (YELLOW)	Image process	Image density correction	Power source-ON	
F2	84	Half tone correction (2nd patch) trouble (BLACK)	Image process	Image density correction	Power source-ON	
F2	85	Half tone correction (2nd) patch trouble (CYAN)	Image process	Image density correction	Power source-ON	
F2	86	Half tone correction (2nd) patch trouble (MAGENTA)	Image process	Image density correction	Power source-ON	
F2	87	Half tone correction (2nd) patch trouble (YELLOW)	Image process	Image density correction	Power source-ON	
F2	90	Half tone correction trouble	Image process	Image density correction	Power source-ON	
F3	12	Lift-up trouble (Paper 1)	Paper tray 1	Paper tray lift up	Power source-ON	
F3	22	Lift-up trouble (Paper 2)	Paper tray 2	Paper tray lift up	Power source-ON	
F3	32	Lift-up trouble (Paper 3)	Paper tray 3	Paper tray lift up	Power source-ON	
F3	42	Lift-up trouble (Paper 4)	Paper tray 4	Paper tray lift up	Power source-ON	
F9	0	ICU PWB-printer controller communication trouble (ICU detection)	ICU IMAGE PWB / PRINTER CONTROLLER	Warm-up / Printing	Power source-ON	
H2	0	Fusing main temperature sensor (lower)(Thermistor) open/Fusing unit not-installed (THS1)	Fusing	All modes	Power Source-ON	
H2	1	Fusing main temperature sensor (lower)(Thermistor) open/Fusing unit not-installed (THS2)	Fusing	All modes	Power Source-ON	
H2	2	Fusing main temperature sensor (upper)(Thermistor) open/Fusing unit not-installed (THS3)	Fusing	All modes	Power Source-ON	
H2	3	Fusing main temperature sensor (upper)(Thermistor) open/Fusing unit not-installed (THS4)	Fusing	All modes	Power Source-ON	
H3	0	Fusing section high temperature trouble (THS1)	Fusing	All modes	SIM 14	
H3	1	Fusing section high temperature trouble (THS2)	Fusing	All modes	SIM 14	
H3	2	Fusing section high temperature trouble (THS3)	Fusing	All modes	SIM 14	
H3	3	Fusing section high temperature trouble (THS4)	Fusing	All modes	SIM 14	
H4	0	Fusing section (upper) low temperature trouble (HL1)	Fusing	All modes	SIM 14	

Main code	Sub code	Title (Content)	Section	Operation mode	Remedy	NOTE
H4	1	Fusing section (lower) low temperature trouble (HL2)	Fusing	All modes	SIM 14	
H5	1	Paper jam in the fusing/paper exit sections	Fusing	Copy / Print	SIM 14	
H6	0	Fusing oil empty (Oil sensor trouble)	Fusing	All modes	Power Source-ON	
H7	0	AC input voltage (HLV) trouble	Power source	All modes	Power Source-ON	
L1	0	Scanner feed trouble	Scanner (reading)	Initialize / Copy	Power Source-ON	
L3	0	Scanner return trouble	Scanner (reading)	Initialize / Copy	Power Source-ON	
L4	3	Fusing motor trouble	Fusing	Warm-up / Copy/ Print	Power Source-ON	
L4	4	Developing motor trouble (BLACK)	Developing drive	Warm-up / Copy/ Print	Power Source-ON	
L4	5	Developing motor trouble (COLOR)	Developing drive	Warm-up / Copy / Print	Power Source-ON	
L4	6	Transfer belt lift trouble	Image process (Transfer)	Color / Monochrome copy (print) mode select	Power Source-ON	
L6	10	Scanner (writing) motor lock detection (BLACK)	Scanner (writing)	All modes	Power Source-ON	
L6	11	Scanner (writing) motor lock detection (CYAN)	Scanner (writing)	All modes	Power Source-ON	
L6	12	Scanner (writing) motor lock detection (MAGENTA)	Scanner (writing)	All modes	Power Source-ON	
L6	13	Scanner (writing) motor lock detection (YELLOW)	Scanner (writing)	All modes	Power Source-ON	
L8	1	Power full wave signal (FWS) trouble	Power source	All modes	Power Source-ON	
L8	2	Power full wave signal (FWS) width trouble	Power source	All modes	Power Source-ON	
PF	0	RIC copy inhibit signal reception	PCU PWB	RIC communication	SIM 17	
U0	0	Operation control PWB - PCU MAIN PWB communication trouble (OPE/PCU detection)	Operation PWB/PCU MAIN PWB	All modes	Power Source-ON	
U0	80	PCU MAIN PWB - PCUSUB PWB communication trouble (PCU detection)	PCU SUB PWB/PCU MAIN PWB	All modes	Power Source-ON	
U2	0	EEPROM read/write error (PCU MAIN PWB)	PCU PWB	Warm-up	SIM 16	
U2	11	Counter data (EEPROM) check sum error (PCU MAIN PWB)	PCU PWB	All modes	SIM 16	
U2	12	Setup/Adjustment value data (EEPROM) check sum error (PCU MAIN PWB)	PCU PWB	All modes	SIM 16	
U2	20	EEPROM read/write error (ICU MAIN PWB)	ICU PWB	Warm-up	SIM 16	
U2	21	Counter (EEPROM) check sum error (ICU MAIN PWB)	ICU PWB	All modes	SIM 16	
U2	22	Setup, adjustment value (EEPROM) check sum error (ICU MAIN PWB)	ICU PWB	All modes	SIM 16	
U2	30	Manufacturing No. data (ICU MAIN PWB/PCU MAIN PWB) discrepancy	ICU PWB / PCU PWB	All modes	SIM 16	
U4	0	PCU MAIN PWB - ADU communication trouble	PCU PWB / Duplex control PWB	Warm-up / Initialize	Power Source-ON	
U4	2	ADU Alignment plate operation trouble	Duplex	Initialize/Duplex copy (print)	Power Source-ON	
U4	12	ADU transport motor trouble	Duplex	Duplex copy (print)	Power Source-ON	
U5	0	PCU MAIN PWB - RADF communication trouble	PCU PWB / RADF control PWB	Warm-up / Initialize	Power Source-ON	

Main code	Sub code	Title (Content)	Section	Operation mode	Remedy	NOTE
U5	1	RADF resist sensor trouble	RADF	RADF	Power Source-ON	
U5	2	RADF expulsion sensor trouble	RADF	RADF	Power Source-ON	
U5	3	RADF timing sensor trouble	RADF	RADF	Power Source-ON	
U5	11	RADF paper feed motor trouble	RADF	RADF	Power Source-ON	
U6	9	Large capacity tray (LCC) lift motor trouble	Large capacity tray	Paper feed	SIM 15	
U6	20	PCU MAIN PWB-Large capacity tray (LCC) communication trouble	Large capacity tray control PWB / PCU MAIN PWB	Warm-up / Initialize	Power Source-ON	
U6	21	Large capacity tray (LCC) transport motor trouble	Large capacity tray	Paper feed	Power Source-ON	
U6	22	Large capacity tray (LCC) 24v power trouble	Large capacity tray	All modes	Power Source-ON	
U7	0	RIC communication trouble	PCU PWB	RIC communication	Power Source-ON	
UC	0	ICU SCAN PWB - CPT PWB communication trouble	ICU SCAN PWB / CPT PWB	Copy	Power Source-ON	
UC	1	CPT board program trouble	CPT PWB	Warm-up / Initialize	Power Source-ON	
UC	2	CPT board ASIC trouble	CPT PWB	Warm-up / Initialize	Power Source-ON	
UC	3	CPT board ROM trouble	CPT PWB	Warm-up / Initialize	Power Source-ON	
UC	4	CPT board RAM trouble	CPT PWB	Warm-up / Initialize	Power Source-ON	
UC	5	CPT board model code data trouble	ICU MAIN PWB / CPT PWB	Warm-up / Initialize	Power Source-ON	

6. Details

Main code	Sub code	Title	ROM trouble (PCU MAIN PWB)	
A0	**0**	Phenomenon	Display	Lamp
				Message
			Detail	Mismatch between ROM and PCU MAIN PWB (mismatch in signal levels)
			Section	PCU MAIN PWB
			Operation mode	Power ON
			NOTE	
		Case 1	Trouble position / Cause	ROM trouble/Improper ROM insertion
			Remedy	(Check)
				(Repair) Replace the PCU MAIN PWB ROM.
				(After work)
		Case 2	Trouble position / Cause	PCU MAIN PWB trouble
			Remedy	(Check)
				(Repair) Replace the PCU MAIN PWB. / Power OFF-ON.
				(After work) Reenter the set values and the adjustment values.

Main code	Sub code	Title	Shading trouble (White correction)	
E7	**11**	Phenomena	Display	Lamp
				Message
			Detail	In shading correction, the CCD white reading level is abnormal (with the scanner lamp OFF).
			Section	Scanner (reading) / ICU SCAN PWB
			Operation mode	Warm-up / Initialize
			Note	
		Case 1	Trouble position/Cause	Improper CCD white level gain Too great CCD white level gain
			Remedy	(Check) 1) Use SIM 63-1 to check the values of ADJUST ODD GAIN and ADJUST EVEN GAIN of each color of R/G/B. (There are six values in total.) 2) Add 25 to each value of GAIN ODD and GAIN EVEN of R/G/B checked in procedure 1) and make notes of the total values. 3) Enter the SIM 46-6 mode, and replace each value of GAIN ODD and GAIN EVEN of R/G/B with the total values calculated in procedure 2). 4) Cancel the simulation. 5) Turn OFF/ON the power, and shading operation will be performed.
				(Repair) Power OFF-ON
				(After work)
			Note	This trouble occasionally happens when the CCD unit (with the lens) is replaced.
		Case 2	Trouble position/cause	Bad connection of the flat cable between the CCD unit and the ICU SCAN PWB.
			Remedy	(Check) Check connection of the flat cable between the CCD unit and the ICU SCAN PWB.
				(Repair) Replace the flat cable between the CCD unit and the ICU SCAN PWB. / Power Source-ON
				(After-work)
			Note	
		Case 3	Trouble position/cause	CCD unit trouble
			Remedy	(Check) CCD black offset level check (SIM 46-6) / Shading correction result check (SIM 63-1)
				(Repair) Replace the CCD unit. / Power Source-ON
				(After-work) Adjust ADJM17-ADJ1.
			Note	
		Case 4	Trouble position/cause	ICU SCAN PWB, ICU IMAGE PWB, ICU MAIN PWB trouble
			Remedy	(Check)
				(Repair) ICU SCAN PWB, ICU IMAGE PWB, ICU MAIN PWB. / Power Source-ON
				(After-work) Adjust ADJM9/M10/M12/M13/M14/M15/M17. / Re-enter setup values and adjustment values. (Install the EEPROM of the defective ICU MAIN PWB to a new ICU MAIN PWB.)
			Note	
		Case 5	Trouble position/cause	Scanner section dirt (Shading sheet trouble (dirt, scratch)/Lens dirt/Mirror dirt/Reflector dirt)
			Remedy	(Check) Scanner section dirt check
				(Repair) Clean the scanner section (shading sheet/lens/CCD/mirror/reflector)./Power Source-ON
				(After-work)
			Note	
		Case 6	Trouble position/cause	Scanner lamp insufficient light quantity (Scanner lamp trouble/scanner lamp control PWB trouble)
			Remedy	(Check) Check the scanner lamp applying voltage (62.3V) (SIM 5-3).
				(Repair) Replace the scanner lamp. / Replace the scanner lamp control PWB. / Power Source-ON
				(After-work) Adjust ADJM17-ADJ1.
			Note	

Main code	Sub code	Title	Communication trouble between PCU MAIN PWB - Finisher control PWB (Detected by PCU MAIN PWB)	
F1	0	Phenomenon	Display	Lamp
				Message
			Detail	Communication test error after turning on the power or canceling the simulation
			Section	PCU MAIN PWB/Finisher control PWB
			Operation mode	When power ON/Initializing
			NOTE	
		Case 1	Trouble position / Cause	Signal line connection error between the PCU MAIN PWB and the finisher control PWB
			Remedy	(Check) Check the signal line connection between the PCU MAIN PWB and the finisher control PWB
				(Repair) Repair or replace the connector and the cable between the PCU MAIN PWB and the finisher control PWB/Power OFF-ON.
				(After work)
		Case 2	Trouble position / Cause	Finisher control PWB error
			Remedy	(Check)
				(Repair) Replace the finisher control PWB./Power OFF-ON
				(After work) Make various adjustments related to the finisher electric section. (Install the EEPROM of the defective finisher control PWB to a new finisher control PWB.)
		Case 3	Trouble position / Cause	PCU MAIN PWB trouble
			Remedy	(Check)
				(Repair) Replace the PCU MAIN PWB. / Power OFF-ON
				(After work) Reenter the set values and the adjustment values. (Install the EEPROM on the defective PCU MAIN PWB to a new PCU MAIN PWB.)

Main code	Sub code	Title	Finisher paper exit trouble (Finisher side detection)	
F1	2	Phenomenon	Display	Lamp
				Message
			Detail	In the initial operation, the motor rotation sensor output signal is not recognized within the specified time after output of the finisher paper exit motor ON signal.
			Section	Finisher paper exit
			Operation mode	Power ON/ Initial operation
			NOTE	
		Case 1	Trouble position / Cause	Paper exit motor trouble / Paper exit motor rotation sensor trouble
			Remedy	(Check) Check the paper exit motor/paper exit motor rotation sensor operations. (SIM 3-1/2)
				(Repair) Replace the paper exit motor. / Replace the paper exit motor rotation sensor. / Power OFF-ON
				(After work)
		Case 2	Trouble position / Cause	Paper exit mechanism section trouble
			Remedy	(Check) Check the paper exit mechanism section operation. (SIM 3-1/2)
				(Repair) Replace or repair parts of the paper exit mechanism section. / Power OFF-ON
				(After work)
		Case 3	Trouble position / Cause	Finisher control PWB trouble
			Remedy	(Check) Check the finisher control PWB operation. (SIM 3-1/2)
				(Repair) Replace the finisher control PWB. / Power OFF-ON
				(After work) Make various adjustments related to the finisher electric section. (Install the EEPROM of the defective finisher control PWB to a new finisher control PWB.)

Main code	Sub code	Title	Finisher staple trouble (Finisher side detection)	
F1	10	Phenomenon	Display	Lamp
				Message
			Detail	The staple home position sensor signal OFF is not recognized within the specified time after output of the staple motor ON signal. / Though the staple home position sensor OFF signal is recognized after output of the staple motor ON signal, but the staple home position sensor ON signal is not recognized within the specified time.
			Section	Finisher stapler
			Operation mode	Stapling
			NOTE	
		Case 1	Trouble position / Cause	Staple motor trouble / Staple home position sensor trouble
			Remedy	(Check) Check the operation of the staple motor/staple home position sensor. (SIM 3-1/2)
				(Repair) Replace the staple motor. / Replace the staple home position sensor. / Power OFF-ON
				(After work)
		Case 2	Trouble position / Cause	Staple unit mechanism section trouble
			Remedy	(Check) Check the staple unit mechanism section operation. (SIM 3-1/2)
				(Repair) Replace or repair the staple unit. / Power OFF-ON
				(After work)
		Case 3	Trouble position / Cause	Finisher control PWB trouble
			Remedy	(Check) (SIM3-1/2) Check the finisher control PWB operation. (SIM 3-1/2)
				(Repair) Replace the finisher control PWB. / Power OFF-ON
				(After work) Make various adjustments related to the finisher electric section. (Install the EEPROM of the defective finisher control PWB to a new finisher control PWB.)

Main code	Sub code	Title	Finisher bundle process trouble (Finisher side detection)	
F1	11	Phenomenon	Display	Lamp
				Message
			Detail	In the initial operation, the return roller home position sensor signal ON is not recognized within the specified time after starting rotation of the return roller. / In the initial operation, the bundle exit belt home position sensor OFF is not recognized within the specified time after starting bundle exit operation. / In the initial operation, the bundle exit belt home position sensor signal ON is not recognized within the specified time after starting bundle exit operation.
			Section	Finisher paper exit
			Operation mode	Power ON / Initial operation
			NOTE	
		Case 1	Trouble position / Cause	Bundle process motor trouble / Return roller home position sensor trouble
			Remedy	(Check) Check operations of the bundle process motor/return roller home position sensor. (SIM 3-1/2)
				(Repair) Replace the bundle process motor. / Replace the return roller home position sensor. / Power OFF-ON
				(After work)
		Case 2	Trouble position / Cause	Return roller mechanism section trouble
			Remedy	(Check) Return roller mechanism section (SIM 3-1/2)
				(Repair) Repair the return roller mechanism section. / Power OFF-ON
				(After work)
		Case 3	Trouble position / Cause	Finisher control PWB trouble
			Remedy	(Check) Check the finisher control PWB operation. (SIM 3-1/2)
				(Repair) Replace the finisher control PWB. / Power OFF-ON
				(After work) Make various adjustments related to the finisher electric section. (Install the EEPROM of the defective finisher control PWB to a new finisher control PWB.)

Main code	Sub code	Title	Finisher tray lift trouble (Finisher side detection)	
F1	15	Phenomenon	Display	Lamp
				Message
			Detail	In the tray lift up operation, the tray upper limit sensor ON is recognized. / The specified number or more of the tray lift motor rotation sensor signals are not recognized within the specified time after starting rotation of the tray lift motor. / The tray paper height sensor ON is not recognized within the specified time after starting the tray lift up operation. / The tray paper height sensor OFF is not recognized within the specified time after starting the tray lift down operation.
			Section	Finisher tray lift
			Operation mode	All modes
			NOTE	
		Case 1	Trouble position / Cause	Tray lift mechanism section trouble
			Remedy	(Check) Check the tray lift mechanism section. (SIM 3-1/2)
				(Repair) Repair the tray lift mechanism section. / Power OFF-ON
				(After work)
		Case 2	Trouble position / Cause	Tray lift motor trouble / Tray upper limit sensor trouble / Tray lift motor rotation sensor trouble / Tray height sensor trouble
			Remedy	(Check) Check the operations of the tray lift motor / tray upper limit sensor / tray lift motor rotation sensor / tray height sensor. (SIM 3-1/2)
				(Repair) Replace the tray lift motor. / Replace the tray upper limit sensor. / Replace the tray lift motor rotation sensor. / Replace the tray height sensor.
				(After work)
		Case 3	Trouble position / Cause	Finisher control PWB trouble
			Remedy	(Check) Check the operation of the finisher control PWB. (SIM 3-1/2)
				(Repair) Replace the finisher control PWB. / Power OFF-ON
				(After work) Make various adjustments related to the finisher electric section. (Install the EEPROM of the defective finisher control PWB to a new finisher control PWB.)

Main code	Sub code	Title	Finisher alignment trouble (Front side) (Finisher side detection)	
F1	19	Phenomenon	Display	Lamp
				Message
			Detail	In the initial operation, the alignment plate home position sensor signal OFF is not recognized within the specified time after starting rotation of the alignment motor. / In the initial operation, the alignment plate home position sensor signal ON is not recognized within the specified time after starting rotation of the alignment motor.
			Section	Finisher alignment
			Operation mode	Power ON
			NOTE	
		Case 1	Trouble position / Cause	Alignment mechanism section trouble (Front side)
			Remedy	(Check) Check the alignment mechanism section. (Front side) (SIM 3-1/2)
				(Repair) Repair the alignment mechanism section (Front side). / Power OFF-ON
				(After work)
		Case 2	Trouble position / Cause	Alignment motor trouble / Alignment plate home position sensor trouble (Front side)
			Remedy	(Check) Check the operations of the alignment motor/alignment plate home position sensor (Front side). (SIM 3-1/2)
				(Repair) Replace the alignment motor. / Replace the alignment plate home position sensor. (Front side)
				(After work)
		Case 3	Trouble position / Cause	Finisher control PWB trouble
			Remedy	(Check) Check the finisher control PWB operation. (SIM 3-1/2)
				(Repair) Replace the finisher control PWB. / Power OFF-ON
				(After work) Make various adjustments related to the finisher electric section. (Install the EEPROM of the defective finisher control PWB to a new finisher control PWB.)

Main code	Sub code	Title	Finisher alignment trouble (Rear side) (Finisher side detection)	
F1	20	Phenomenon	Display	Lamp
				Message
			Detail	In the initial operation, the alignment plate home position sensor signal OFF is not recognized within the specified time after starting rotation of the alignment motor. / In the initial operation, the alignment plate home position sensor signal ON is not recognized within the specified time after starting rotation of the alignment motor. (Rear side)
			Section	Finisher alignment
			Operation mode	Power ON
			NOTE	
		Case 1	Trouble position / Cause	Alignment mechanism section trouble (Rear side)
			Remedy	(Check) Check the alignment mechanism section (Rear side). (SIM 3-1/2)
				(Repair) Repair the alignment mechanism section (Rear side). / Power OFF-ON
				(After work)
		Case 2	Trouble position / Cause	Alignment motor trouble / Alignment plate home position sensor trouble (Rear side)
			Remedy	(Check) Check the operations of the alignment motor/alignment plate home position sensor (Rear side). (SIM 3-1/2)
				(Repair) Replace the alignment motor. / Replace the alignment plate home position sensor (Rear side).
				(After work)
		Case 3	Trouble position / Cause	Finisher control PWB trouble
			Remedy	(Check) Check the finisher control PWB operation. (SIM 3-1/2)
				(Repair) Replace the finisher control PWB. / Power OFF-ON
				(After work) Make various adjustments related to the finisher electric section. (Install the EEPROM of the defective finisher control PWB to a new finisher control PWB.)

Main code	Sub code	Title	Image density sensor trouble (COLOR)(Calibration plate reflection abnormality)	
F2	45	Phenomena	Display	Lamp
				Message
			Detail	In the image density correction, the calibration plate is read by the image density sensor and the sensor gain is adjusted so that the output becomes a fixed value. However, the output of the specified range cannot be obtained even though the sensor gain is changed.
			Section	Image process (Transfer)
			Operation mode	Image density correction
			Note	"Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased."
		Case 1	Trouble position/cause	Image density sensor trouble
			Remedy	(Check) Check the image density sensor (dirt, output)(SIM44-2) / Check the image density sensor calibration plate. / Check the operation of the image density sensor calibration plate switching.
				(Repair) Clean or replace the image density sensor. / Clean or replace the image density sensor calibration plate. / Replace the image density sensor calibration plate switch solenoid. / Power Source-ON
				(After-work) Adjust ADJ M6
			Note	
		Case 2	Trouble position/cause	"Calibration plate trouble (dirt, scratch)"
			Remedy	(Check) Toner dispersion from the transfer belt, the OPC drum unit, and the developing unit
				(Repair) Clean or replace the calibration plate. / Replace the transfer belt cleaner. / Clean the OPC drum and the developing unit. / Power Source-ON
				(After-work)
			Note	
		Case 3	Trouble position/cause	PCU SUB PWB trouble
			Remedy	(Check) Check the PCU SUM PWB image density sensor circuit.
				(Repair) PCU SUB PWB replacement / Power Source-ON
				(After-work)
			Note	

Main code	Sub code	Title	Drum marking sensor gain adjustment error (BLACK)	
F2	54	Phenomena	Display	Lamp
				Message
			Detail	In the image density correction, the drum surface area is read by the drum marking sensor and the sensor gain is adjusted so that the output becomes a fixed value. However, the output of the specified range cannot be obtained even though the sensor gain is changed.
			Section	Image process (OPC drum)
			Operation mode	Image density correction
			Note	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
		Case 1	Trouble position/cause	Drum marking sensor trouble (dirt, output)
			Remedy	(Check) Drum marking sensor output check (SIM44-2)
				(Repair) Clean or replace the drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 2	Trouble position/cause	Bad connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor
			Remedy	(Check) Check connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor.
				(Repair) Repair or replacement of the cable and the connector between the PCU MAIN PWB / Process control PWB / Drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 3	Trouble position/cause	PCU MAIN PWB trouble
			Remedy	(Check)
				(Repair) Replace the PCU MAIN PWB. / Power Source-ON
				(After-work) Re-enter setup values and adjustment values. (Install the EEPROM of the defective PCU MAIN PWB to a new PCU MAIN PWB.)
			Note	
		Case 4	Trouble position/cause	OPC drum surface dirt, scratch / A different type of OPC drum is installed.
			Remedy	(Check) Check dirt and scratches on the OPC drum surface, and the type of OPC drum.
				(Repair) Clean the OPC drum surface. / Replace the OPC drum. / Power Source-ON
				(After-work) Refer to the requirement item 2 of maintenance servicing and consumable parts replacement.
			Note	

Main code	Sub code	Title	Drum marking sensor gain adjustment error (CYAN)	
F2	55	Phenomena	Display	Lamp
				Message
			Detail	In the image density correction, the drum surface area is read by the drum marking sensor and the sensor gain is adjusted so that the output becomes a fixed value. However, the output of the specified range cannot be obtained even though the sensor gain is changed.
			Section	Image process (OPC drum)
			Operation mode	Image density correction
			Note	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
		Case 1	Trouble position/cause	Drum marking sensor trouble (dirt, output)
			Remedy	(Check) Drum marking sensor output check (SIM44-2)
				(Repair) Clean or replace the drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 2	Trouble position/cause	Bad connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor
			Remedy	(Check) Check connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor.
				(Repair) Repair or replacement of the cable and the connector between the PCU MAIN PWB / Process control PWB / Drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 3	Trouble position/cause	PCU MAIN PWB trouble
			Remedy	(Check)
				(Repair) Replace the PCU MAIN PWB. / Power Source-ON
				(After-work) Re-enter setup values and adjustment values. (Install the EEPROM of the defective PCU MAIN PWB to a new PCU MAIN PWB.)
			Note	
		Case 4	Trouble position/cause	OPC drum surface dirt, scratch / A different type of OPC drum is installed.
			Remedy	(Check) Check dirt and scratches on the OPC drum surface, and the type of OPC drum.
				(Repair) Clean the OPC drum surface. / Replace the OPC drum. / Power Source-ON
				(After-work) Refer to the requirement item 2 of maintenance servicing and consumable parts replacement.
			Note	

Main code	Sub code	Title	Drum marking sensor gain adjustment error (MAGENTA)	
F2	56	Phenomena	Display	Lamp
				Message
			Detail	In the image density correction, the drum surface area is read by the drum marking sensor and the sensor gain is adjusted so that the output becomes a fixed value. However, the output of the specified range cannot be obtained even though the sensor gain is changed.
			Section	Image process (OPC drum)
			Operation mode	Image density correction
			Note	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
		Case 1	Trouble position/cause	Drum marking sensor trouble (dirt, output)
			Remedy	(Check) Drum marking sensor output check (SIM44-2)
				(Repair) Clean or replace the drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 2	Trouble position/cause	Bad connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor
			Remedy	(Check) Check connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor.
				(Repair) Repair or replacement of the cable and the connector between the PCU MAIN PWB / Process control PWB / Drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 3	Trouble position/cause	PCU MAIN PWB trouble
			Remedy	(Check)
				(Repair) Replace the PCU MAIN PWB. / Power Source-ON
				(After-work) Re-enter setup values and adjustment values. (Install the EEPROM of the defective PCU MAIN PWB to a new PCU MAIN PWB.)
			Note	
		Case 4	Trouble position/cause	OPC drum surface dirt, scratch / A different type of OPC drum is installed.
			Remedy	(Check) Check dirt and scratches on the OPC drum surface, and the type of OPC drum.
				(Repair) Clean the OPC drum surface. / Replace the OPC drum. / Power Source-ON
				(After-work) Refer to the requirement item 2 of maintenance servicing and consumable parts replacement.
			Note	

Main code	Sub code	Title	Drum marking sensor gain adjustment error (YELLOW)	
F2	57	Phenomena	Display	Lamp
				Message
			Detail	In the image density correction, the drum surface area is read by the drum marking sensor and the sensor gain is adjusted so that the output becomes a fixed value. However, the output of the specified range cannot be obtained even though the sensor gain is changed.
			Section	Image process (OPC drum)
			Operation mode	Image density correction
			Note	Print is disabled in USA/Japan. For the other destinations, print is enabled. However, the print density must be forcibly decreased.
		Case 1	Trouble position/cause	Drum marking sensor trouble (dirt, output)
			Remedy	(Check) Drum marking sensor output check (SIM44-2)
				(Repair) Clean or replace the drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 2	Trouble position/cause	Bad connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor
			Remedy	(Check) Check connection of the signal line between PCU MAIN PWB / Process control PWB / Drum marking sensor.
				(Repair) Repair or replacement of the cable and the connector between the PCU MAIN PWB / Process control PWB / Drum marking sensor. / Power Source-ON
				(After-work)
			Note	
		Case 3	Trouble position/cause	PCU MAIN PWB trouble
			Remedy	(Check)
				(Repair) Replace the PCU MAIN PWB. / Power Source-ON
				(After-work) Re-enter setup values and adjustment values. (Install the EEPROM of the defective PCU MAIN PWB to a new PCU MAIN PWB.)
			Note	
		Case 4	Trouble position/cause	OPC drum surface dirt, scratch / A different type of OPC drum is installed.
			Remedy	(Check) Check dirt and scratches on the OPC drum surface, and the type of OPC drum.
				(Repair) Clean the OPC drum surface. / Replace the OPC drum. / Power Source-ON
				(After-work) Refer to the requirement item 2 of maintenance servicing and consumable parts replacement.
			Note	

Main code	Sub code	Title	Process humidity sensor trouble	
F2	58	Phenomena	Display	Lamp
				Message
			Detail	Process humidity sensor output line open
			Section	Image process (Transfer)
			Operation mode	All modes
			Note	In the case of AR-C100, the error code is displayed (print disabled). In the case of AR-C150, the error code is stored in the trouble memory (print enabled).
		Case 1	Trouble position/cause	Bad connection between the image density sensor and the PCU SUB PWB.
			Remedy	(Check) Check connection of the humidity sensor and the PCU SUB PWB.
				(Repair) Replace the humidity sensor. / Power Source-ON
				(After-work) Adjust ADJ M6
			Note	
		Case 2	Trouble position/cause	PCU SUB PWB trouble
			Remedy	(Check) Check the PCU SUB PWB humidity sensor circuit.
				(Repair) PCU SUB PWB replacement / Power Source-ON
				(After-work)
			Note	

Main code	Sub code	Title	Manufacturing No. data (ICU MAIN PWB / PCU MAIN PWB) discrepancy	
U2	30	Phenomena	Display	Lamp
				Message
			Detail	The serial No. data stored in the ICU MAIN PWB (EEPROM) and that in the PCU MAIN PWB (EEPROM) do not coincide.
			Section	ICU PWB / PCU PWB
			Operation mode	All modes
			Note	
		Case 1	Trouble position/cause	"When replacing the ICU MAIN PWB or the PCU MAIN PWB, the serial No. data is not entered."
			Remedy	(Check)
				(Repair) Enter the correct serial No. data to the ICU MAIN PWB and the PCU MAIN PWB (EEPROM). / SIM 16
				(After-work)
			Note	

[11] MAINTENANCE AND DISASSEMBLY/ASSEMBLY

1. Necessary procedure for maintenance and servicing

(1) Items to be performed before maintenance servicing 1

Item	Simulation	
Check the print counter value of each section in each operation mode.	22	1
Check the number of times of paper jams and troubles.	22	2
Check the paper jam positions and contents.	22	3
Check the paper jam positions and contents. (RADF section)	22	12
Check the trouble contents.	22	4
Prints the list of setups and adjustment values.	22	6
Check the number of use of the RADF, the sorter and the scanner.	22	8
Check the number of use of paper feed sections.	22	9

(2) Items to be performed in maintenance servicing and replacement of consumable parts 2

No.	Job No.		Work item	Simulation		After OPC drum replacement (*2)	After developer replacement (*3)	After transfer belt replacement	After transfer section waste toner disposal	After scanner (reading) section cleaning	In maintenance (*1)
1	ADJ M3		Toner concentration reference level setup	25	2		1				
2			Developer counter clear	24	5		2				
3			OPC counter clear	24	7	1					
4	ADJ M8		OPC drum phase adjustment	44	20 (Old) 31 (New)	2					
5			Half tone correction level is reset to default	44	27	3	3				
6			Transfer section waste toner counter is cleared.	24	8				1		
7	ADJ M6	ADJ 1	Image density sensor adjustment	44	13			1			1
8	ADJ M6	ADJ 2	Image density sensor position adjustment	44	23			2			2
9	ADJ M9A ADJ M9	ADJ 1	Main scanning direction magnification ratio adjustment	50	22 (10)			3			3
10	ADJ M9A ADJ M9	ADJ 2	Main scanning direction image resist adjustment	50	22 (20)			4			4
11	ADJ M10		Sub scanning direction image resist adjustment	50	22 (21)			5			5
12	ADJ M7		Image skew adjustment	64	1						6
13	ADJ M17	ADJ 1	CCD gamma adjustment (Normal document mode)	63	3					1	7
		ADJ 1A	CCD gamma adjustment (Copy document mode)	63	9 (AR-C250 only)					2	8
14	ADJ M17	ADJ 2	Color balance adjustment (Auto)	46	24	4	4	6		3	9
15	ADJ M17	ADJ 3	Color balance adjustment (Manual)	46	21	(4)	(4)	(6)		(3)	(9)
16			Color balance adjustment data memory	44	21	5	5	7		4	10
17	ADJ M17	ADJ 4	Color balance adjustment (copy mode) (Individual adjustment)	46	10 – 19 (25)(AR-C250 only)	6	6	8		5	11
				46	1/2	7	7	9		6	12

The above items must be performed when replacing consumable parts as well as in maintenance.
The numbers in the table above indicate the sequence of procedures. There is no need to perform the items which have no numbers in the table.
Job No. indicates the title number of setup and adjustment items. Refer to the details according to this number.
Item No. 14 ~ 17 are common jobs and must be always performed when servicing and in maintenance.
If, however, color balance check is performed and there is no need to adjust, there is no need to perform items No. 14, 15, and 17.

*1: When a consumable part is replaced in maintenance, perform items 1 ~ 6 and perform 7 ~ 17.

*2, *3: Replace all the three colors (Y, M, C) at a time. (Color developers and color OPC drums must be replaced at a time.) Black developer and black OPC drum can be replaced individually.

When the developer counter is cleared (SIM 24-5) and the OPC drum counter is cleared (SIM 24-7), the image density correction (process correction) is automatically performed.

(3) Items to be performed after maintenance servicing 3

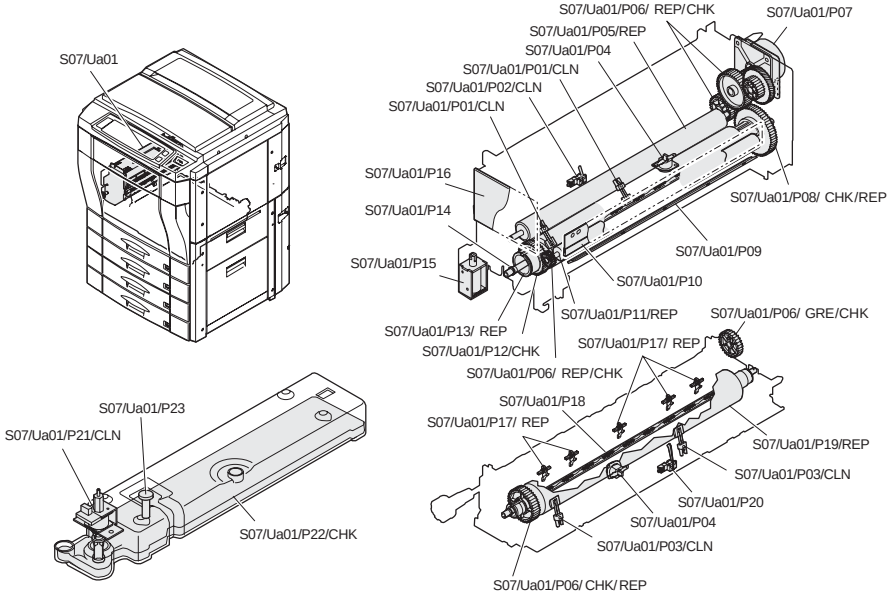
Item	Simulation	
Paper jam, trouble data clear	24	1
Each paper feed section use number counter clear	24	2
RADF, sorter, scanner use number counter clear	24	3
Maintenance counter clear	24	4
Setup and adjustment data output	22	6

2. List

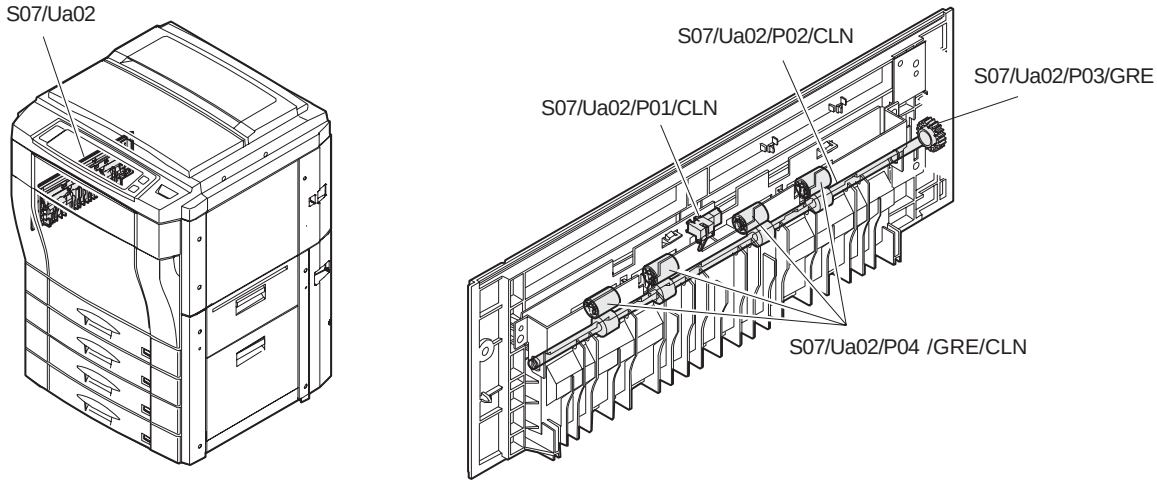
- OIL/GRE (Lubricate, grease); CLN (Cleaning); ADJ (Adjustment); REP (Replacement, installation); CP (Change position); CHK (Check); (Clean, replace, lubricate, grease as necessary); ABL (Disassembly, assembly)

S07 Fusing/paper exit sections

Unit		Part		JOB CODE	Every service call	40K	80K	120K	160K	200K	240K	280K	320K	Remark
U No.	Unit name	P No.	Part name											
Ua01	Fusing unit			CHK		*	*	*	*	*	*	*	*	When replacing the unit
		P01	Thermistor (Upper) 2 pcs	CLN		*	*	*	*	*	*	*	*	
		P02	Duplex paper exit detector	CLN			*		*		*		*	
		P03	Thermistor (Lower) 2 pcs.	CLN		*	*	*	*	*	*	*	*	
		P04	Thermostat (Upper/Lower)	ABL										
		P05	Upper cleaning roller	REP		*	*	*	*	*	*	*	*	
		P06	Gear	REP					*				*	
				CHK		*	*	*	*	*	*	*	*	
		P07	Fusing drive motor	ABL										
		P08	Upper heat roller gear R	REP		*	*	*	*	*	*	*	*	
				CHK										
				ABL										
		P09	Oil applying felt	REP		*	*	*	*	*	*	*	*	
				ABL										
		P10	Oil applying blade	REP		*	*	*	*	*	*	*	*	
				ABL										
		P11	Oil applying roller	REP		*	*	*	*	*	*	*	*	
				ABL										
		P12	Upper heat roller gear F	CHK										
				REP		*	*	*	*	*	*	*	*	
				ABL										
		P13	Upper heat roller	REP		*	*	*	*	*	*	*	*	
				ABL										
		P14	Upper heater lamp	ABL										
		P15	Duplex gate solenoid	ABL										
		P16	Heater lamp control PWB (AC sub PWB)	ABL										
		P17	Lower separation pawl	REP		*	*	*	*	*	*	*		
		P18	Lower heater lamp	ABL										
		P19	Lower heat roller	REP		*	*	*	*	*	*	*	*	
				ABL										
		P20	Paper entry detector	CLN			*		*		*		*	
		P21	Oil pump	CLN		*	*	*	*	*	*	*	*	
		P22	Oil	CHK		*	*	*	*	*	*	*	*	
		P23	Oil sensor	ABL										



Unit		Part		JOB CODE	Every service call	40K	80K	120K	160K	200K	240K	280K	320K	Remark
U No.	Unit name	P No.	Part name											
Ua02	Paper exit unit			ABL										
		P01	Paper exit detector	CLN			*		*		*		*	
		P02	Paper exit roller	CLN	*	*	*	*	*	*	*	*	*	
		P03	Gear	GRE										
		P04	Paper exit idle roller	GRE										Inside
				CLN		*	*	*	*	*	*	*	*	



(1) Maintenance display

When the maintenance timing is reached, the following display is shown.

MAINTENANCE REQUIRED CODE: XX

The above two-digit code indicates the kind and the count of the maintenance counter.

The meaning of the CODE indication is as shown below.

CODE (XX) 1st digit	Meaning	
A	5K	Maintenance counter value set with SIM 21-1.
B	10K	
C	15K	
D	20K	
E	40K	
F	80K	

CODE (XX) 2nd digit	Meaning
T	The total maintenance counter has reached the value set with SIM 21-1.
C	The color maintenance counter has reached the value set with SIM 21-1.
A	Both the total maintenance counter and the color maintenance counter have reached the values set with SIM 21-1.

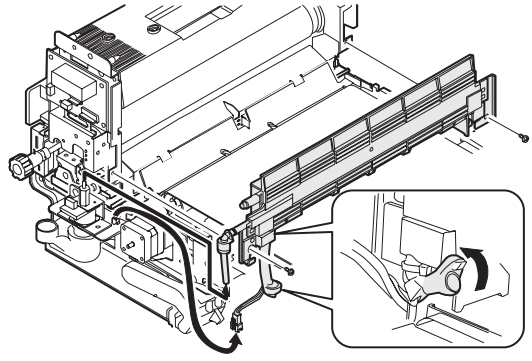
After completion of maintenance, reset this display with SIM 24-4.

3. Details

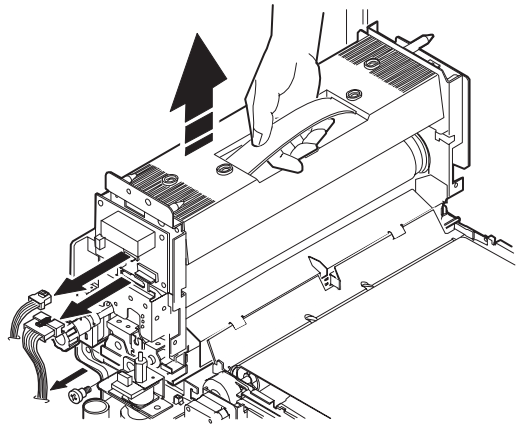
S07 Fusing/paper exit section

S07/Ua01 Fusing unit

1) Open the front cover. S01/P04
2) Remove the hopper unit. S06/Ua01
3) Remove the process frame cover. S06/Ua02
4) Pull out the fusing/transfer unit. S06/Ua06
5) Remove the fusing front cover. S06/U06
6) Disconnect the oil pump and the pipe, and hang the pipe on the hook.
7) Remove the connector.



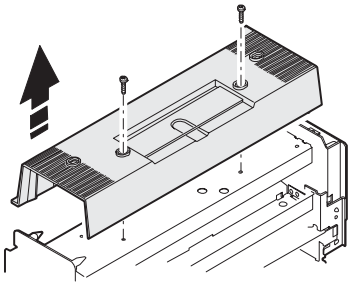
8) Remove the step screw and the connector, and remove the fusing unit (S07/U01).



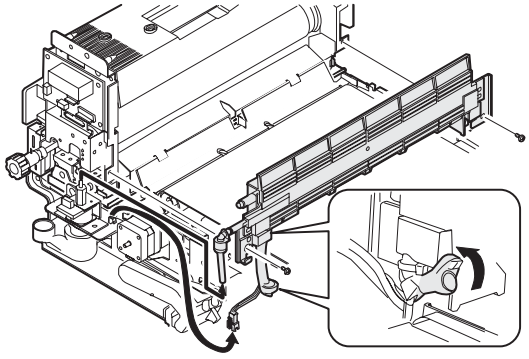
(Note) When a strong external pressure is applied to the fusing unit which is installed to the machine, the oil pipe may come off from the oil pump section. Be careful of it.

S07/Ua01/P01 **Thermistor (upper)**

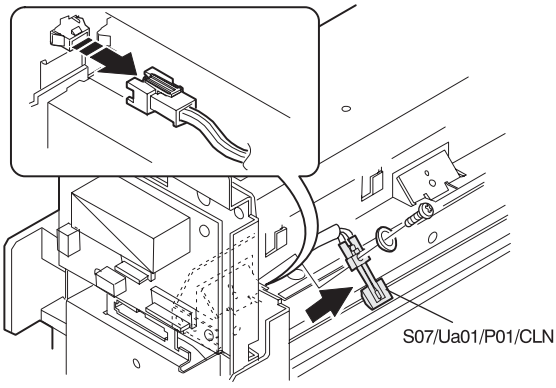
1) Remove the screw, and remove the fusing upper cover.



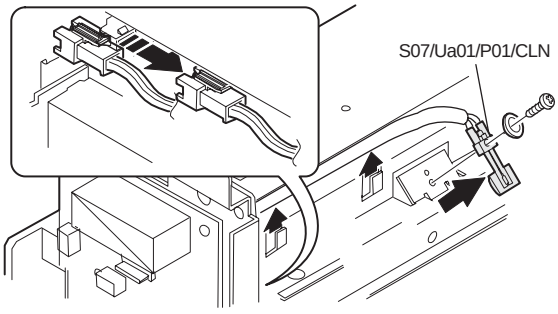
2) Remove the oil applying unit.



3) Remove the Thermistor (upper) (S07/Ua01/P01/CLN).
   * Clean with alcohol.

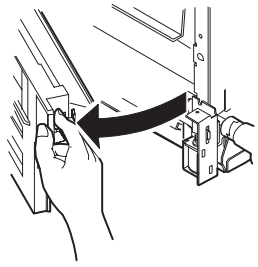


4) Remove the Thermistor (lower) (S07/Ua01/P01/CLN)
   * Clean with alcohol.

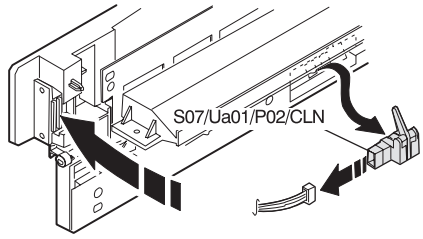


S07/Ua01/P02 **Duplex paper exit detector**

1) Open the paper exit transport guide.



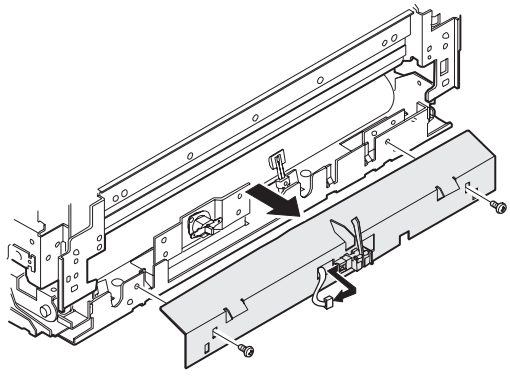
2) Remove the connector, and remove the duplex paper exit detector (S07/Ua01/P02/CLN).



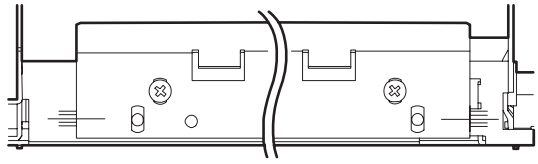
   * Clean the detector.

S07/Ua01/P03 **Thermistor (lower)**

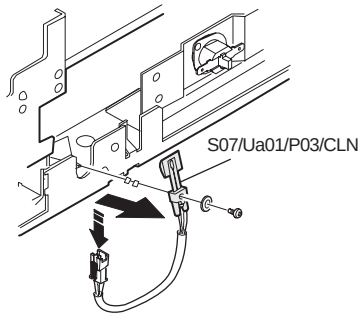
1) Remove the fusing upper cover.
2) Remove the screw, the washer, and the connector.
3) Remove the screw and the connector, and remove the fusing front paper guide unit.



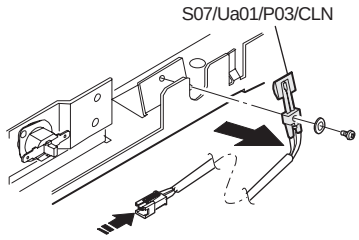
Fusing front paper guide installing position:
Install so that the line mark of the fusing front paper guide comes at the center of the mark on the fusing unit.



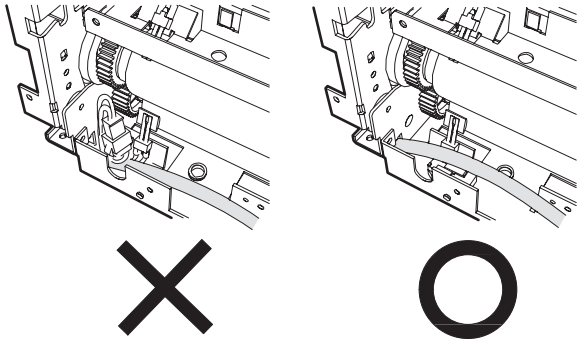
4) Remove the detection Thermistor (lower) (S07/Ua01/P03/CLN).
   * Clean with alcohol.



5) Remove the Thermistor pair (lower) (S07/Ua01/P03/CLN).
   * Clean with alcohol.

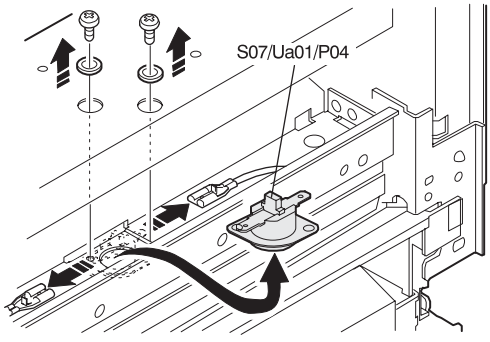


(Note) Fix the thermistor so that the thermistor harness is way from the drive section (gear).

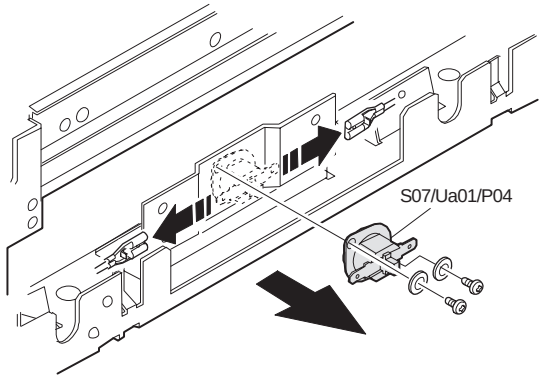


S07/Ua01/P04 Thermostat

1) Remove the fusing upper cover.
2) Remove the screw and the connector, and remove the thermostat (upper) (S07/Ua01/P04).

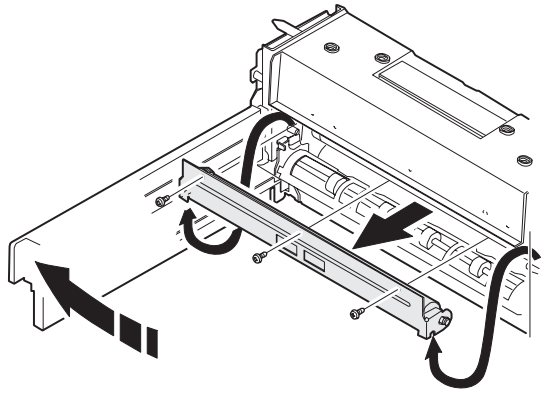


3) Remove the fusing front paper guide unit.
4) Remove the screw and the connector, and remove the thermostat (lower) (S07/Ua01/P04).



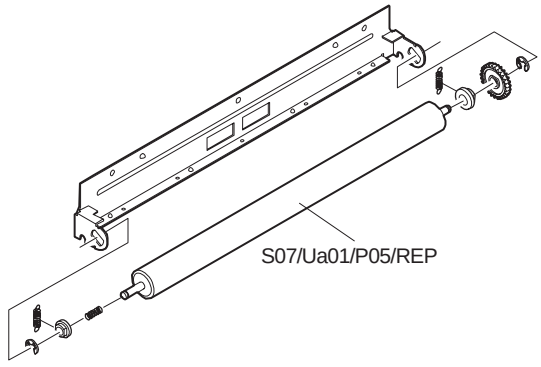
S07/Ua01/P05 Upper cleaning roller

1) Open the paper exit/transport mechanism.
2) Remove the screw, and remove the upper cleaning roller unit.

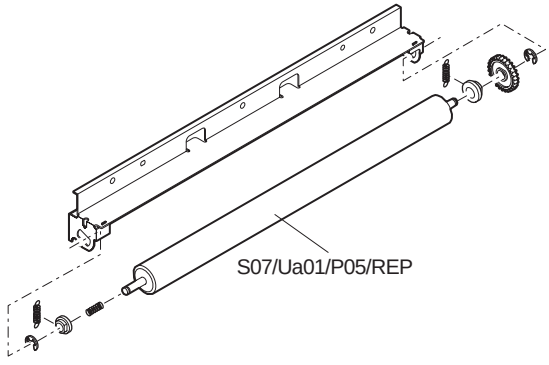


3) Remove the parts, and remove the upper cleaning roller (S07/Ua01/P05/REP).

(AR-C100/C150)

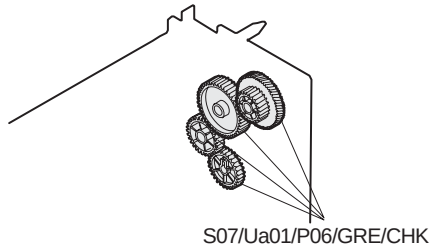


(AR-C250)



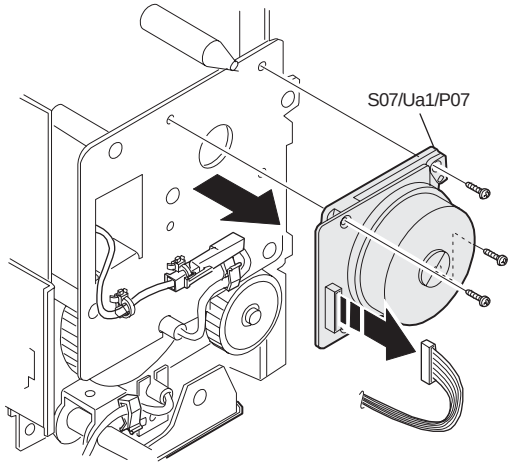
S07/Ua01/P06 Gear

* Apply grease to the gear.



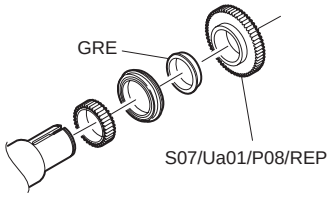
S07/Ua01/P07 Fusing drive motor

1) Remove the screw and the connector, and remove the fusing drive motor (S07/Ua01/P07).



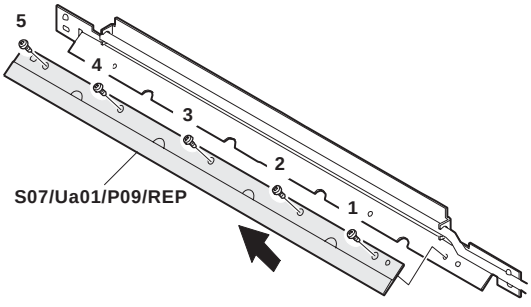
S07/Ua01/P08 Upper heat roller gear R

1) Remove the upper heat roller unit. S07/Ua01/P13
   * Apply grease to the inside of the collar.



S07/Ua01/P09 Oil applying felt

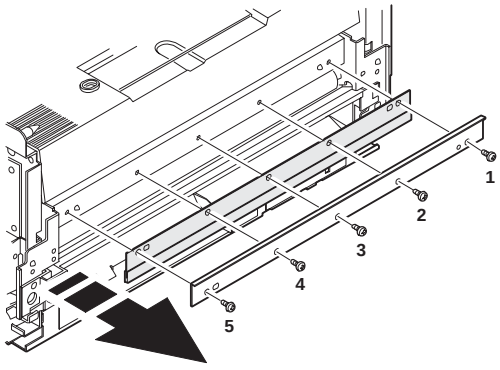
1) Remove the fusing front cover.
2) Remove the screw, the pipe holder, and the oil applying felt unit.
3) Remove the screw, and remove the oil applying felt (S07/Ua01/P09/REP).



* When assembling, tighten the screws in the sequence of numbering.

S07/Ua01/P10 Oil applying blade

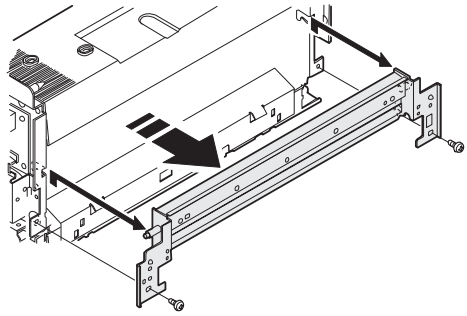
1) Remove the screw, and remove the oil applying blade (S07/Ua01/P10/REP).



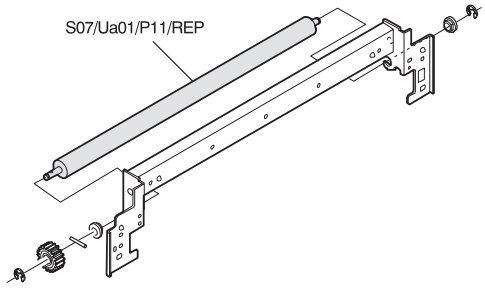
* When assembling, tighten the screws in the sequence of numbering.

S07/Ua01/P11 Oil applying roller

1) Remove the screw, and remove the oil applying unit.

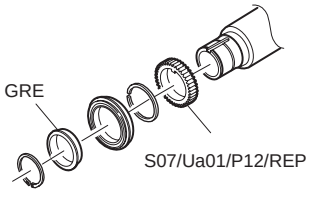


2) Remove the oil applying roller.



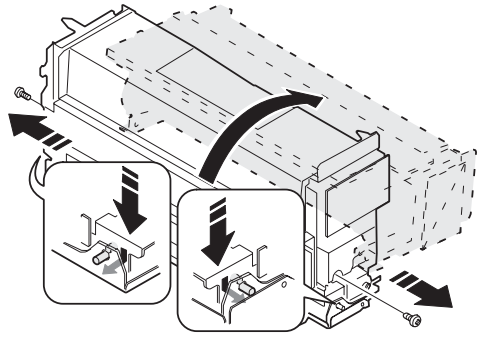
S07/Ua01/P12 Upper heat roller gear F

1) Remove the upper heat roller unit. S07/Ua01/P13
   * Apply grease to the inside of the collar.

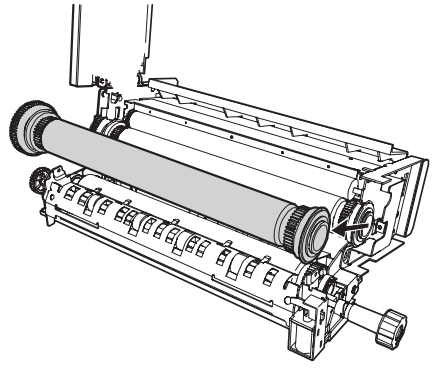


S07/Ua01/P13 Upper heat roller

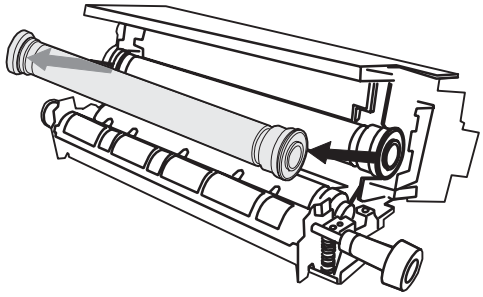
1) Remove the heater lamps. S07/Ua01/P14 S07/Ua01/P18
2) Remove the step screw and the connector, and release the pressure. Remove the fixing screws of the upper/lower fusing units, then remove the upper/lower fusing units upward/downward.



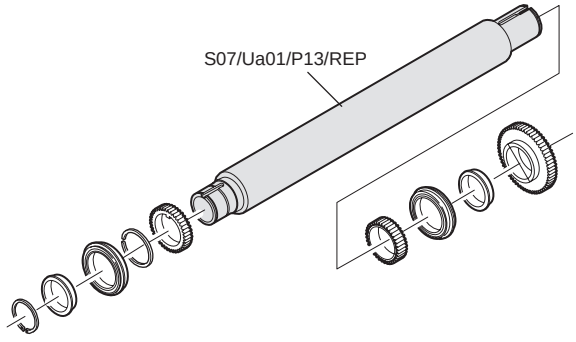
3) Remove the upper heat roller unit.
   (AR-C250)



(AR-C150)

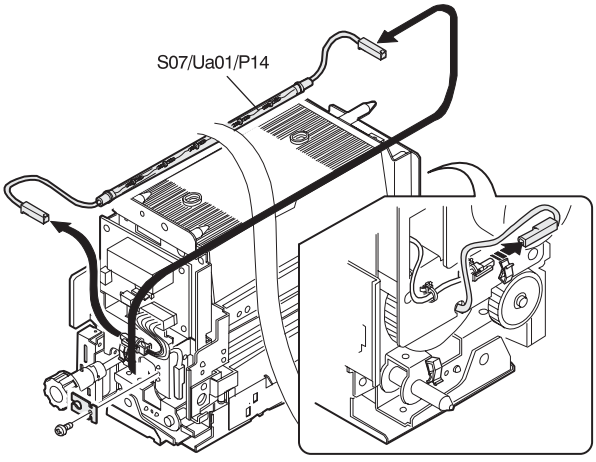


4) Remove the parts, and remove the upper heat roller (S07/Ua01/P16/REP).



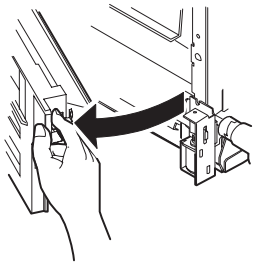
S07/Ua01/P14 Upper heater lamp

1) Remove the lamp holders and the connector.
2) Remove the upper heater lamp.

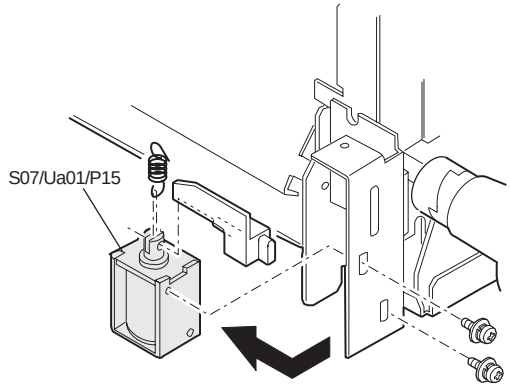


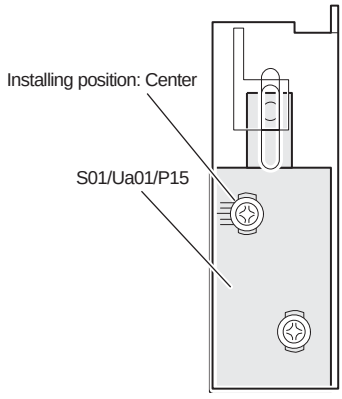
S07/Ua01/P15 Duplex gate solenoid (AR-C150/C250)

1) Open the paper exit/transport guide.



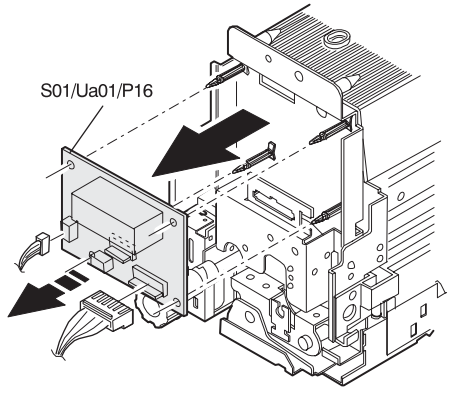
2) Remove the screw and the spring, and remove the duplex gate solenoid.





S07/Ua01/P16 Heater lamp control PWB (AC sub PWB)

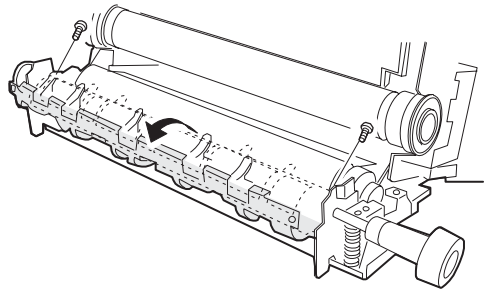
1) Remove the connector, and remove the heater lamp control PWB (AC sub PWB) (S07/Ua01/P16).



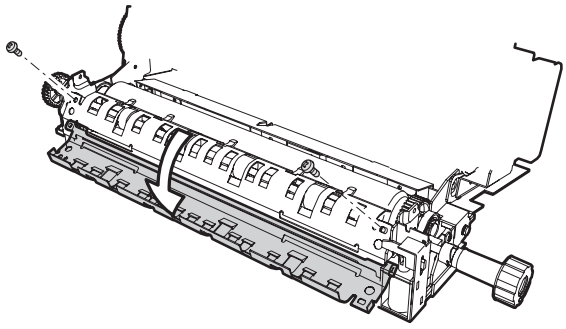
S07/Ua01/P17 Lower separation pawl

1) Open the upper and the lower fusing units.
2) Open the lower separation pawl unit (paper guide).

(AR-C150)

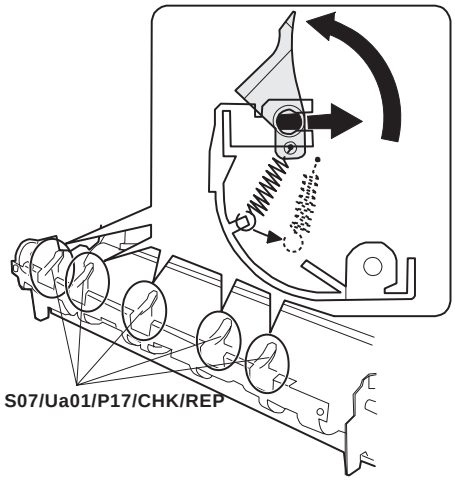


(AR-C250)

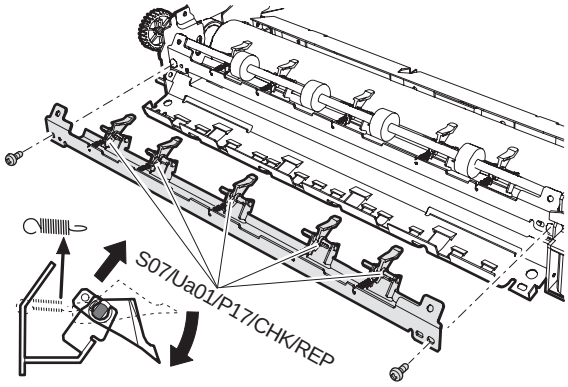


3) Remove the spring, and remove the lower separation pawl (S07/Ua01/P17/CHK/REP).

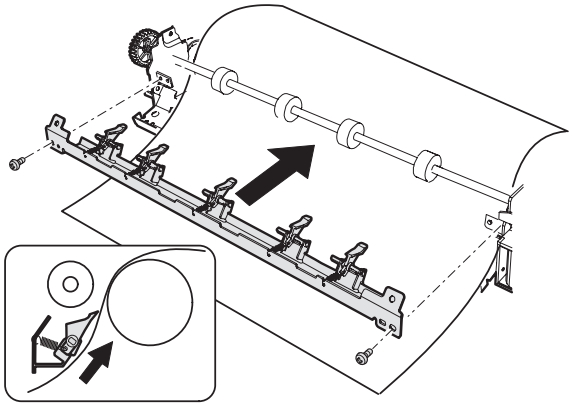
(AR-C150)



(AR-C250)

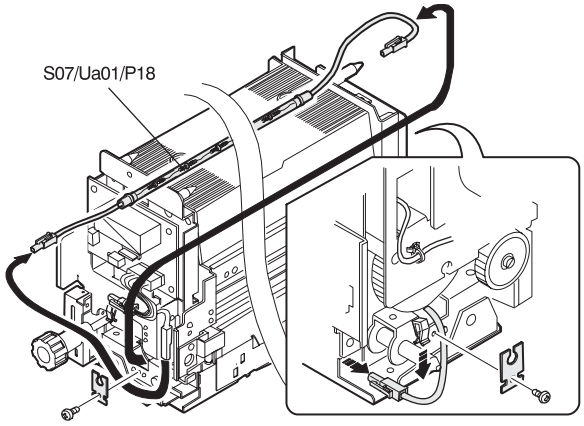


* When installing the lower separation pawl unit (paper guide) in the AR-C250, observe the following instruction.
  Insert thick paper of OHP sheet (A4 or 11" × 8.5" or greater) between the lower heat roller and the paper exit roller, and install so that the lower separation pawl is along the paper.



S07/Ua01/P18 Lower heater lamp

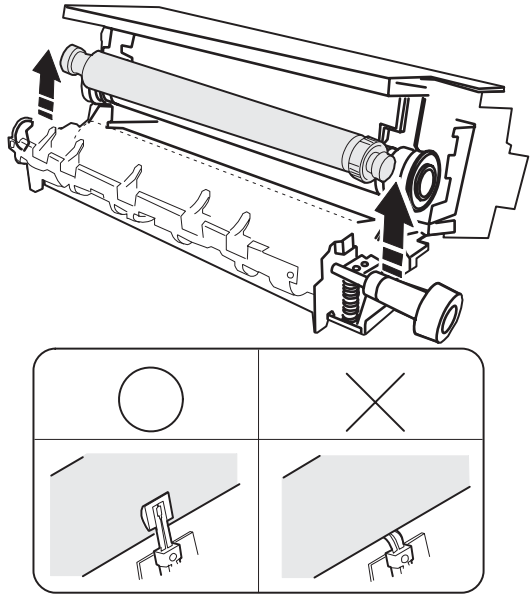
1) Remove the lamp holders and the connectors.
2) Pull out the lower heat lamp.



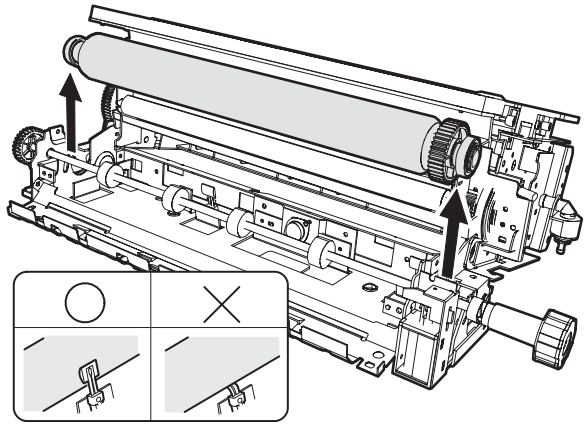
S07/Ua01/P19 Lower heat roller

1) Remove the heater lamps. S07/Ua01/P14 S07/Ua01/P18
2) Open the upper and the lower fusing units.
3) Remove the lower separation pawl unit (paper guide), and remove the lower heat roller unit.

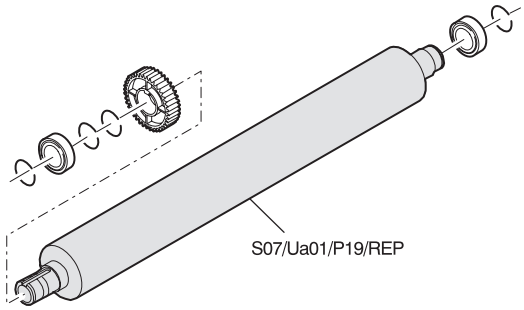
(AR-C100/C150)



(AR-C250)

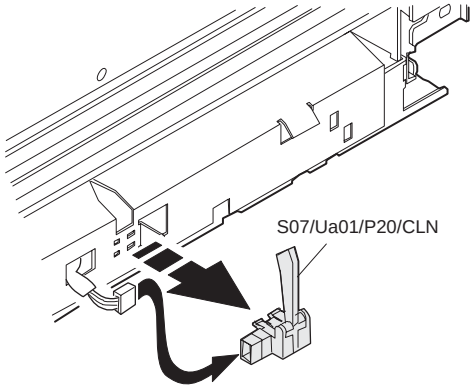


4) Remove the parts, and remove the lower heat roller.



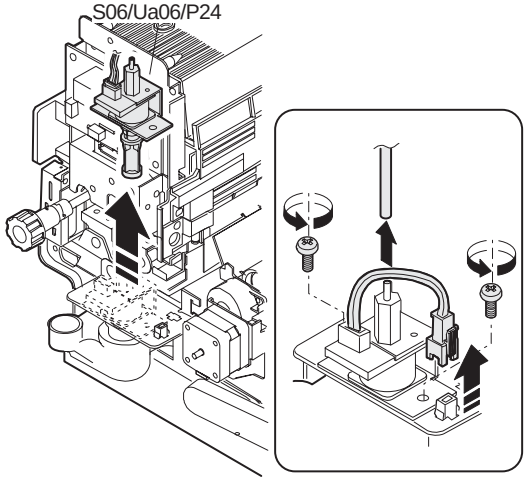
S07/Ua01/P20 Paper entry detector

1) Remove the connector, and remove the paper entry detector (S07/Ua01/P20).
   * Clean the detector.



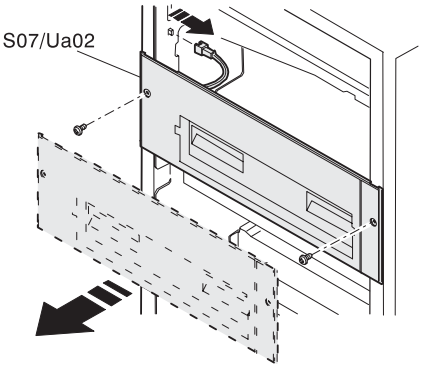
S07/Ua01/P21 Oil pump

Clean and remove oil attached on the external surfaces.



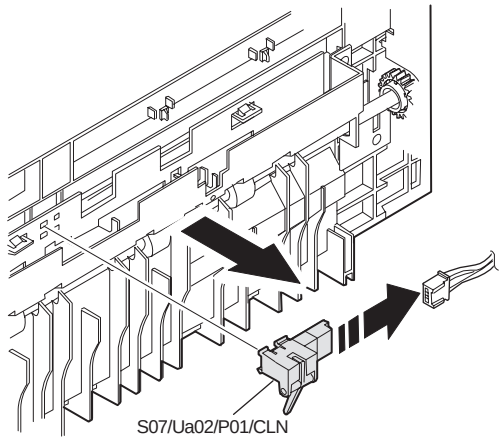
S07/Ua02 Paper exit unit

1) Remove the screw and the connector, and remove the paper exit unit (S07/Ua02).



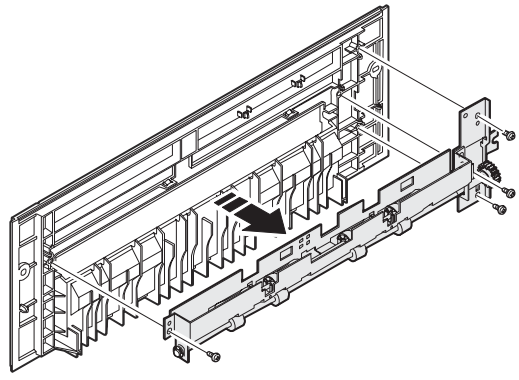
S07/Ua02/P01 Paper exit detector

1) Remove the paper exit unit. S07/Ua02
2) Remove the connector, and remove the paper exit detector (S07/Ua02/P01/CLN).
   * Clean it.

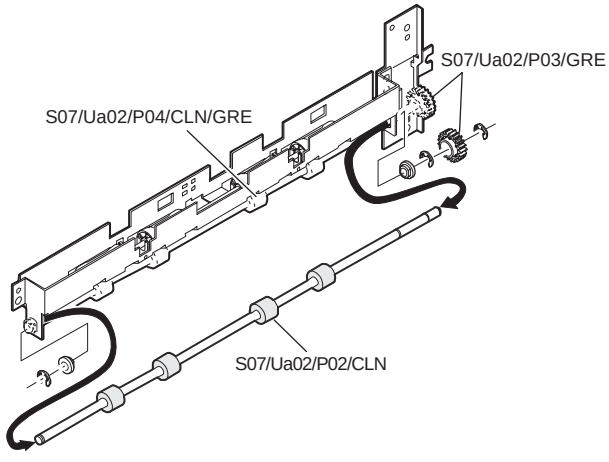


S07/Ua02/P02 Paper exit roller
S07/Ua02/P03 Gear
S07/Ua02/P04 Paper exit idle roller

1) Remove the paper exit unit. S07/Ua02
2) Remove the screw, and remove the paper exit roller unit.



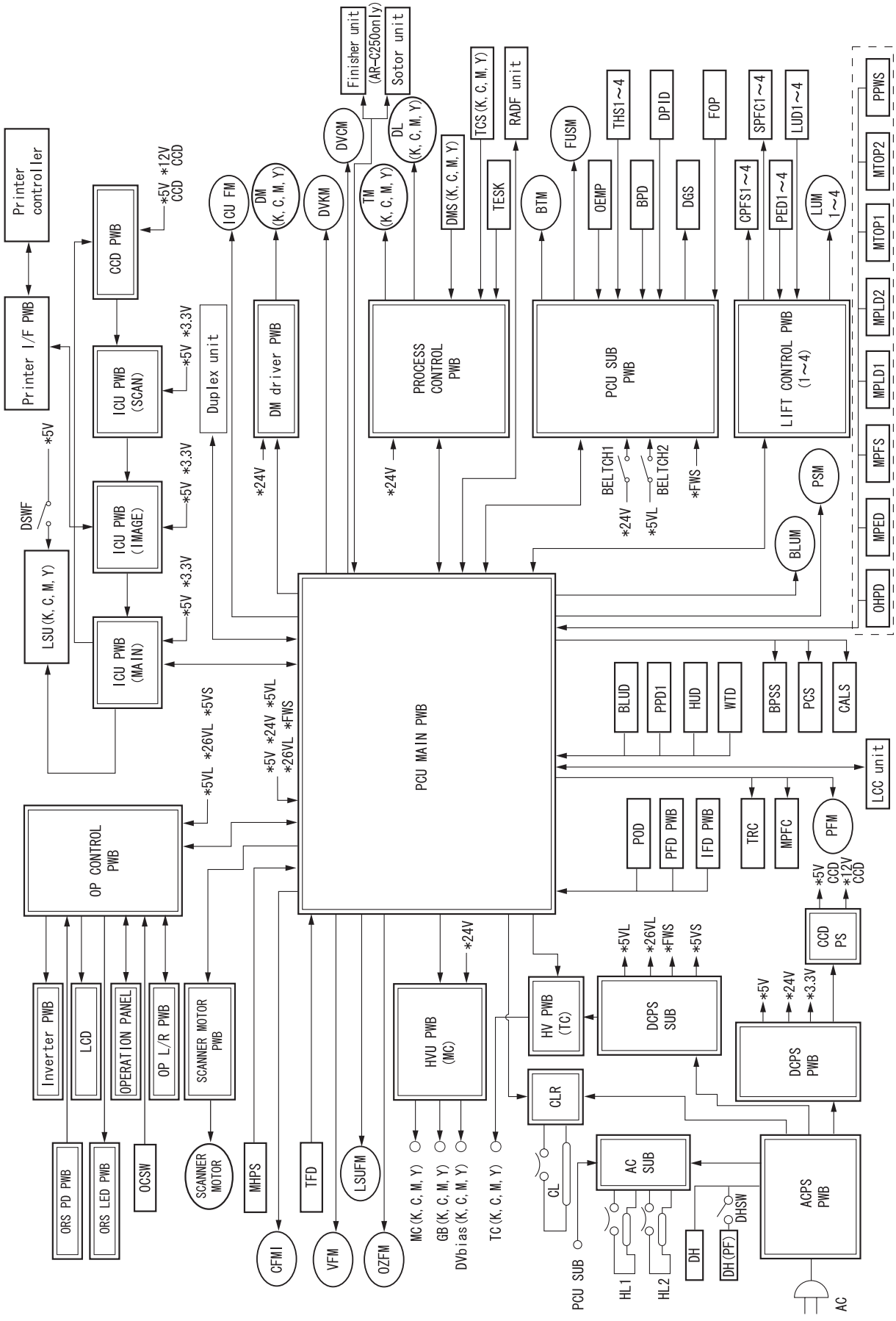
3) Remove the parts, and remove the paper exit roller (S07/Ua02/P02/CLN).
   * Clean with alcohol.



   * Apply grease to the gear (S07/Ua02/P03/GRE) and the inside of the paper exit idle roller (S07/Ua02/P04/CLN/GRE).

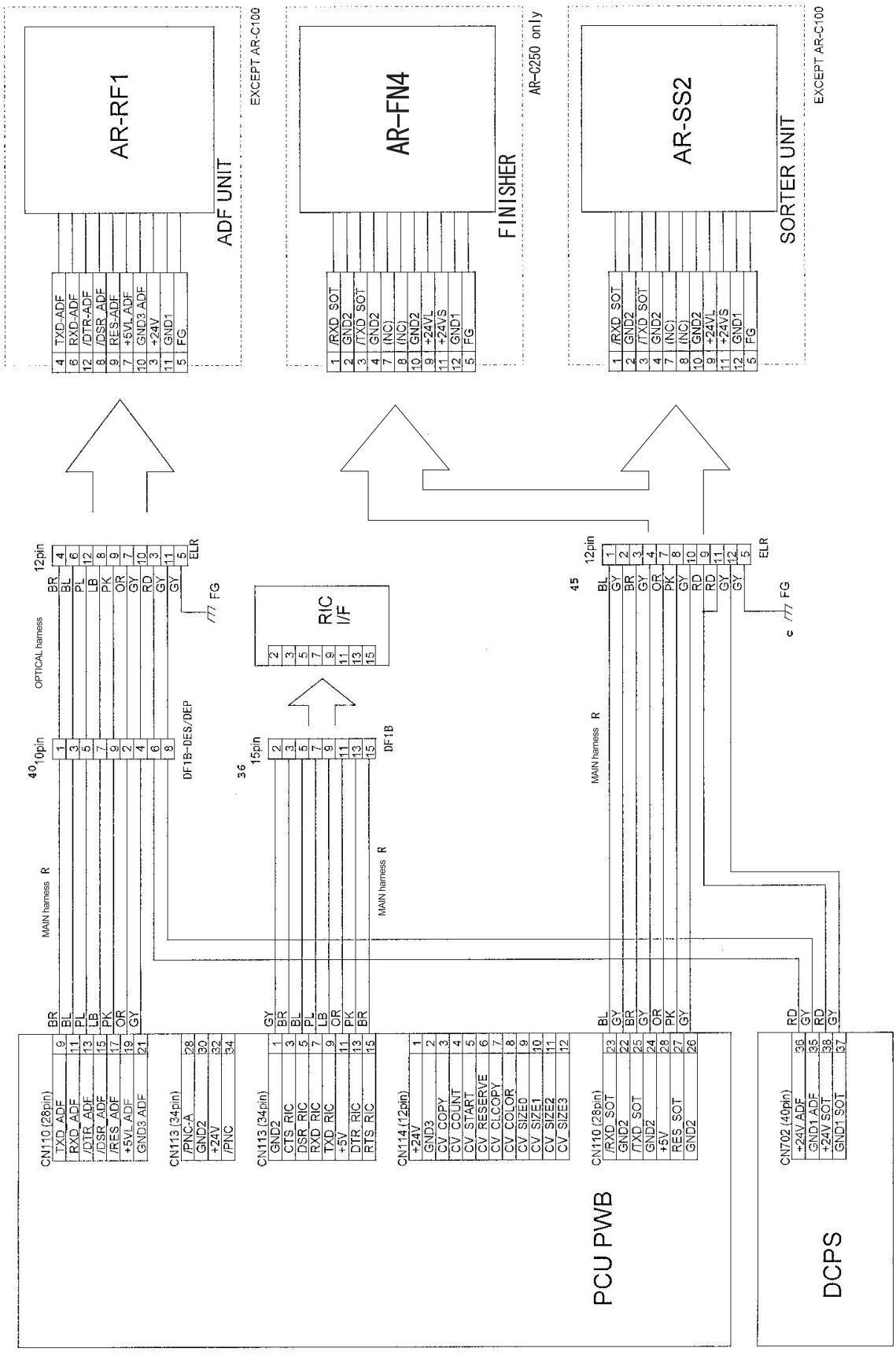
[12] BLOCK DIAGRAM

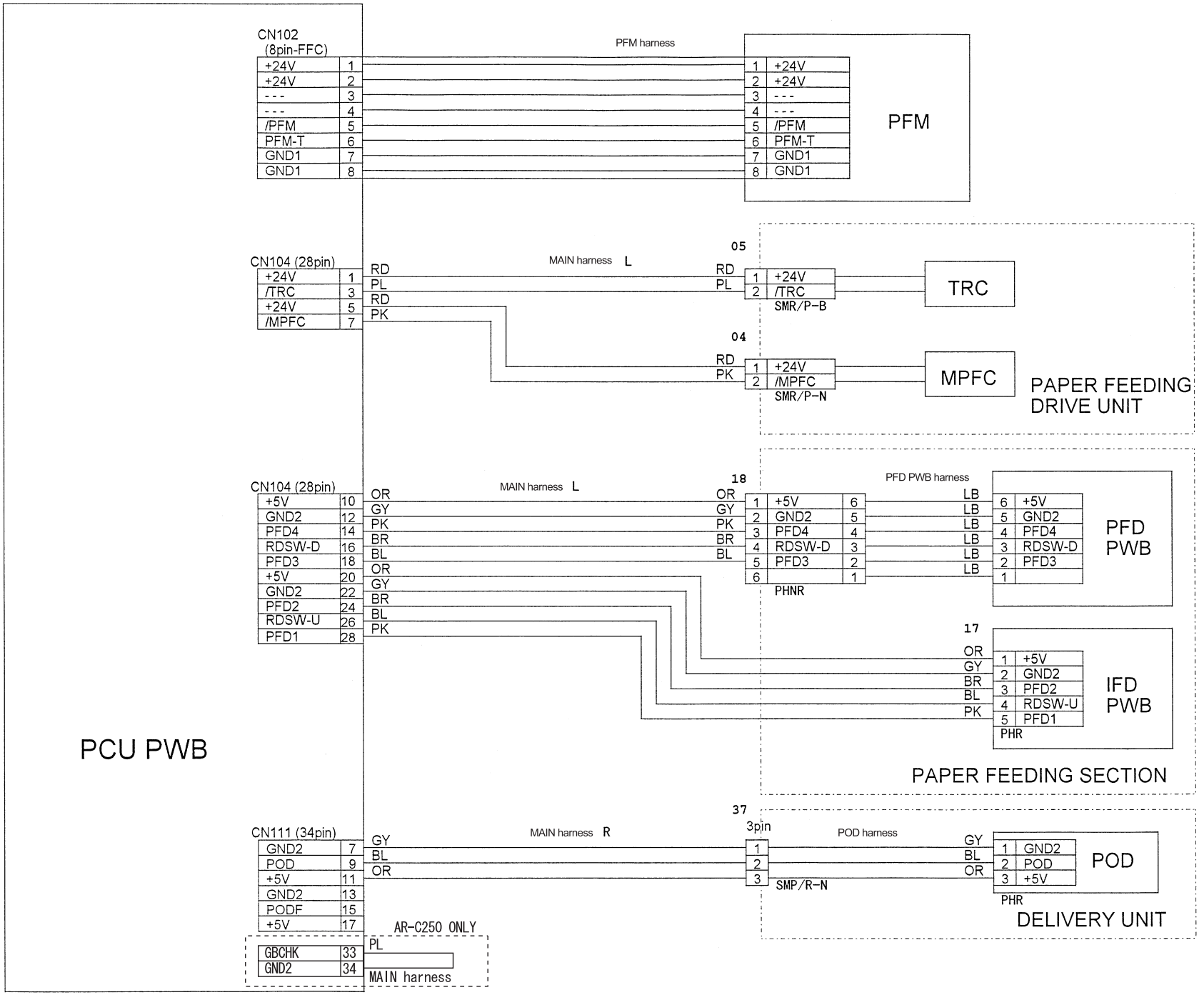
1. Overall block diagram



[13] ACTUAL WIRING CHART

OPTION IF SECTION




PCU PWB
CN102
(8pin-FFC)
+24V 1
+24V 2
--- 3
--- 4
/PFM 5
PFM-T 6
GND1 7
GND1 8
PFM harness
1 +24V
2 +24V
3 ---
4 ---
5 /PFM
6 PFM-T
7 GND1
8 GND1
PFM
CN104 (28pin)
+24V 1
/TRC 3
+24V 5
/MPFC 7
MAIN harness L
RD
PL
RD
PK
05
RD
PL
1 +24V
2 /TRC
SMR/P-B
TRC
04
RD
PK
1 +24V
2 /MPFC
SMR/P-N
MPFC
PAPER FEEDING
DRIVE UNIT
CN104 (28pin)
+5V 10
GND2 12
PFD4 14
RDSW-D 16
PFD3 18
+5V 20
GND2 22
PFD2 24
RDSW-U 26
PFD1 28
MAIN harness L
OR
GY
PK
BR
BL
OR
GY
BR
BL
PK
18
OR
GY
PK
BR
BL
1 +5V 6
2 GND2 5
3 PFD4 4
4 RDSW-D 3
5 PFD3 2
6 1
PHNR
PFD PWB harness
LB
LB
LB
LB
LB
LB
6 +5V
5 GND2
4 PFD4
3 RDSW-D
2 PFD3
1
PFD
PWB
17
OR
GY
BR
BL
PK
1 +5V
2 GND2
3 PFD2
4 RDSW-U
5 PFD1
PHR
IFD
PWB
PAPER FEEDING SECTION
CN111 (34pin)
GND2 7
POD 9
+5V 11
GND2 13
PODF 15
+5V 17
GBCHK 33
GND2 34
AR-C250 ONLY
PL
MAIN harness
MAIN harness R
GY
BL
OR
37
3pin
1
2
3
SMP/R-N
POD harness
GY
BL
OR
1 GND2
2 POD
3 +5V
PHR
POD
DELIVERY UNIT

[14] OTHERS

[Flash ROM Version Up]

1. Outline

A. Target Flash ROM for version up

The following three kinds of flash ROM's are used in the AR-C250/C150, and versions of the flash ROM's are revised.

Flash ROM kind	Capacity
PCU MAIN PWB Flash ROM	16Mbit
ICU MAIN PWB Flash ROM	16Mbit × 2
Flash ROM for operation control PWB	16Mbit (AR-C150) 16Mbit × 2 (AR-C250)

B. When version up of Flash ROM is required

In the following cases, version up of Flash ROM is required.

1) In order to improve the performance.
2) When installing a new spare part Flash ROM to the machine for repair.
3) When installing a new repair spare parts PWB unit which has a Flash ROM in it to the machine.
4) When the program in a Flash ROM has some troubles and must be corrected.

C. Flash ROM version up method

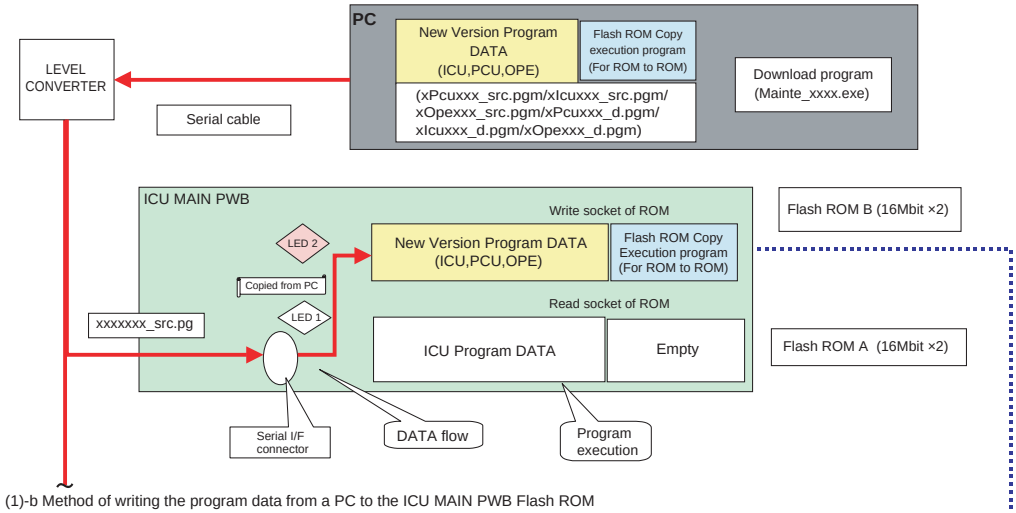
There are following two methods of Flash ROM version up.

1) By using a computer and the ICU MAIN PWB, the program data of Flash ROM is written from the computer to the Flash FOM of the ICU MAIN PWB. (It takes normally 5 to 7 minutes.)
   This method has the following two variations:
   a) All data in the PWB programs and the Flash ROM copy (ROM-ROM) program are written: (Making of the source ROM)
      In this method, the Flash ROM on the writing side needs capacity of 16Mbit × 2. (In order to make a source ROM, the capacity of the Flash ROM must be as shown above.)
   b) Only each PWB program is written.
2) Two Flash ROM sockets on the ICU MAIN PWB are used to copy the program in the source ROM to another Flash ROM. (It normally takes 30 to 60 sec.)
   In this method, the Flash ROM (source ROM) made by the method of using a computer and writing the program to the Flash ROM is required.

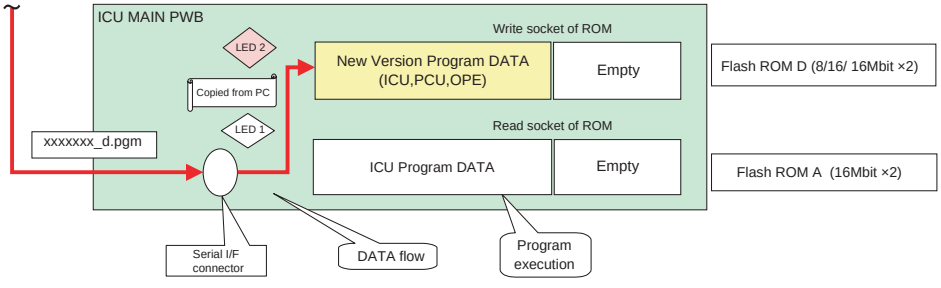
(NOTE)

To make version up of several Flash ROM's of several machines, the method of 1)-a (Making a source ROM and copying it to Flash ROM's) is more effective.

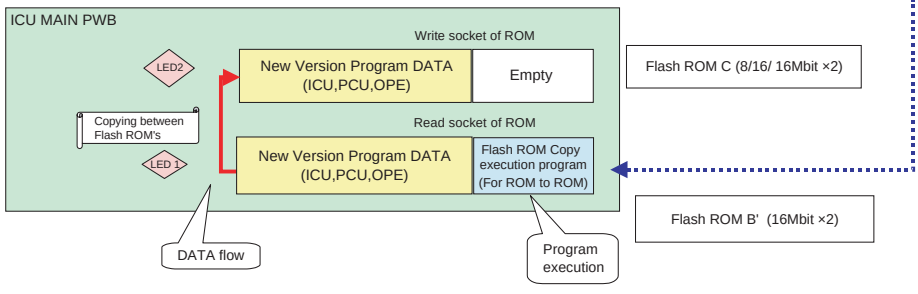
(1)-a Method of writing the program data from a PC to the ICU MAIN PWB Flash ROM (Making of source ROM)
The program for each PWB and the Flash ROM copy program are copied into the Flash ROM on the Write side socket.



(1)-b Method of writing the program data from a PC to the ICU MAIN PWB Flash ROM
The program for each PWB is copied to the Flash ROM on the Write socket.



(2) Method of copying with two Flash ROM sockets on the ICU MAIN PWB
The program for each PWB in the Flash ROM (source ROM) on the Read socket is copied to the Flash ROM (target ROM) on the Write socket.



Relationship between copy (write) method and copy contents

(1)-a Method of writing the program data from a PC to the Flash ROM on the ICU MAIN PWB. (Making of the source ROM)
"The program for each PWB and the Flash ROM copy program are copied to the Flash ROM connected to the Write socket.

PC side			Write side Flash ROM (Flash ROM B)				NOTE
Content		File name	Name	Capacity	Copied content		
Program for PCU MAIN PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	"xPcuxxx_src.pgm"	For PCU MAIN PWB Flash ROM	16Mbit × 2	Program for PCU MAIN PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	"The ICU MAIN PWB Flash ROM with the copy (write) program in it must be connected to the Read side Flash ROM socket. When shipping from the factory, the copy (write) program is provided for use."
Program for ICU MAIN PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	"xIcuxxx_src.pgm"	For ICU MAIN PWB Flash ROM	16Mbit × 2	Program for ICU MAIN PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	"By this method, a Flash ROM to execute copying is made with two Flash ROM sockets on the ICU MAIN PWB."
Program for operation control PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	"xOpexxx_src.pgm"	For Flash ROM copy (ROM – ROM)	16Mbit × 2	Program for operation control PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	ICU MAIN PWB Flash ROM (Version 5.06 or later)/(PCU MAIN PWB Flash ROM (Version 5.03 or later) are required.

(1)-b Method of writing the program data from PC to the ICU MAIN PWB Flash ROM
The program for each PWB is copied to the Flash ROM in the Write socket.

PC side			Write side Flash ROM (Flash ROM D)				NOTE
Content		File name	Name	Capacity	Copied content		
Program for PCU MAIN PWB Flash ROM		"xpcuxxx_d.pgm"	For PCU MAIN PWB Flash ROM	16Mbit	Program for PCU MAIN PWB Flash ROM		"The ICU MAIN PWB Flash ROM with the copy (write) program in it must be connected to the Read side Flash ROM socket. When shipping from the factory, the copy (write) program is provided for use."
Program for ICU MAIN PWB Flash ROM		"xIcuxxx_d.pgm"	For ICU MAIN PWB Flash ROM	16Mbit × 2	Program for ICU MAIN PWB Flash ROM		
Program for operation control PWB Flash ROM		"xOpexxx_d.pgm"	For operation control PWB Flash ROM	16Mbit (AR-C150)/ 16Mbit × 2 (AR-C250)	Program for operation control PWB Flash ROM		ICU MAIN PWB Flash ROM (Version 5.06 or later)/(PCU MAIN PWB Flash ROM (Version 5.03 or later) are required.

(2) Method of copying with two Flash ROM sockets on the ICU MAIN PWB
The program for each PWB in the Flash ROM (Source ROM) on the Read side Flash ROM socket is copied to a Flash ROM on the Write side socket.

Read side Flash ROM (Flash ROM B')(* 1)			Write side Flash ROM(Flash ROM C)				NOTE
Capacity	Content		Kind of Flash ROM	Capacity	Copied content		
16Mbit × 2	Program for PCU MAIN PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	For PCU MAIN PWB Flash ROM	16Mbit	Program for PCU MAIN PWB Flash ROM		"The Flash ROM on the Read side is the source ROM for PCU MAIN PWB, which was made by writing the program data from PC to the Flash ROM."
16Mbit × 2	Program for ICU MAIN PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	For ICU MAIN PWB Flash ROM	16Mbit × 2	Program for ICU MAIN PWB Flash ROM		"The Flash ROM on the Read side is the source ROM for ICU MAIN PWB, which was made by writing the program data from PC to the Flash ROM."
16Mbit × 2	Program for operation control PWB Flash ROM	Program for Flash ROM copy (ROM – ROM)	For operation control PWB Flash ROM	16Mbit (AR-C150)/ 16Mbit × 2 (AR-C250)	Program for operation control PWB Flash ROM		"The Flash ROM on the Read side is the source ROM for operation control PWB, which was made by writing the program data from PC to the Flash ROM."

* 1: This Flash ROM was made by writing the program data from PC to the ICU MAIN PWB Flash ROM.

2. Precautions

(1) Flash ROM version

For this procedure, the Flash ROM of the following version must be installed to the machine.

* ICU MAIN PWB Flash ROM (Version 5.06 or later)
* PCU MAIN PWB Flash ROM (Version 5.03 or later)

(2) Relationship between each ROM and version up

When making version up of ROM, check the combination with the version of ROM installed to the other PWB including options.

In some combination of ROM versions, the machine may not operate normally. If all the ROM's are of the latest versions, there is no problem.

PWB to which the ROM is installed	ROM kind
PCU MAIN PWB	Flash ROM
ICU MAIN PWB	Flash ROM
Operation control PWB	Flash ROM
PCU SUB PWB	EPROM
Sorter (AR-SS2) control PWB	EPROM
RADF (AR-RF1) control PWB	EPROM
Duplex (AR-DU2) control PWB	EPROM
Large capacity paper feed unit (AR-LC2) control PWB	EPROM
Finisher (AR-FN4) control PWB	EPROM

3. Necessary items for version up (copy) of Flash ROM

Necessary items for Flash ROM version up

(1)-a Method of writing the program data from a PC to the Flash ROM on the ICU MAIN PWB. (Making of the source ROM)
The program for each PWB and the Flash ROM copy program are copied to a Flash ROM on the Write socket.

Necessary items	NOTE
Level converter	UKOG-0002QSZZ(with serial cable)/ UKOG-0003QSZZ(without serial cable)
PC	Windows 95/98 operating environment
Download program file	Software to write the program data from a PC to the Flash ROM (Mainte_xxxx.exe)
(PCU MAIN PWB Flash ROM program/Flash ROM copy (ROM to ROM) program) file	"xPcuxxx_src.pgm"
(ICU MAIN PWB Flash ROM program/Flash ROM copy (ROM to ROM) program) file	"xIcuxxx_src.pgm"
(Operation control PWB Flash ROM program/Flash ROM copy (ROM to ROM) program) file	"xOpexxx_src.pgm"
ICU MAIN PWB Flash ROM (including the program for MAIN ICU PWB and the Flash ROM copy (PC – ROM) program) (16Mbit × 2) (Flash ROM A)	Flash ROM which has the function of writing the program data into the Flash ROM on the ICU MAIN PWB ((ICU MAIN PWB Flash ROM (Version 5.06 or later) and PCU MAIN PWB Flash ROM (Version 5.03 or later) are required.)
Writing Flash ROM (16Mbit × 2) (Flash ROM B)	Flash ROM to make a source ROM

(1)-b Method of writing the program data from a PC to the ICU MAIN PWB Flash ROM.
The program for each PWB is copied to the Flash ROM on the Write side socket.

Necessary items	NOTE
Level converter	UKOG-0002QSZZ(with serial cable)/UKOG-0003QSZZ(without serial cable)
PC	Windows 95/98 operating environment
Download program file	Software to write the program data from a PC to the Flash ROM (Mainte_xxxx.exe)
PCU MAIN PWB Flash ROM program file	"xPcuxxx_d.pgm"
ICU MAIN PWB Flash ROM program file	"xIcuxxx_d.pgm"
Operation control PWB Flash ROM program file	"xOpexxx_d.pgm"
Flash ROM for ICU MAIN PWB (including the program for MAIN ICU PWB and the Flash ROM copy (PC – ROM) program) (16Mbit × 2) (Flash ROM A)	Flash ROM which has the function of writing the program data into the Flash ROM on the ICU MAIN PWB ((ICU MAIN PWB Flash ROM (Version 5.06 or later) and PCU MAIN PWB Flash ROM (Version 5.03 or later) are required.)
Writing Flash ROM (16Mbit × 2 / 16Mbit/8Mbit) (Flash ROM C)	"The type (capacity) of Flash ROM is determined depending on the kind of Flash ROM (in the PCU PWB, in the ICU PWB, or in the operation control PWB)."

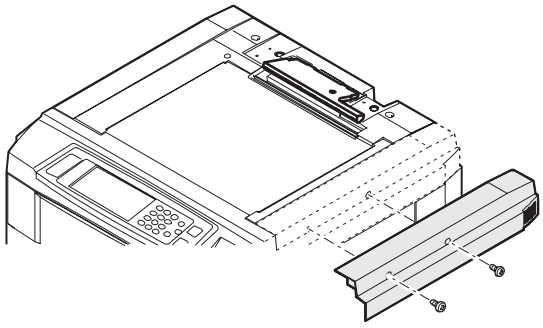
(2) Method of copying with two Flash ROM sockets on the ICU MAIN PWB
The program for each PWB in the Flash ROM (source ROM) on the Read side Flash ROM socket is copied to the Flash ROM on the Write side socket.

Necessary item	NOTE
Flash ROM including the program for MAIN ICU PWB and the Flash ROM copy (ROM–ROM) program) (Flash ROM B') (16Mbit × 2)	Flash ROM made by writing the program data from PC to the Flash ROM (16Mbit × 2)
Flash ROM including the program for PCU MAIN PWB and the Flash ROM copy (ROM–ROM) program) (Flash ROM B') (16Mbit × 2)	Flash ROM made by writing the program data from PC to the Flash ROM (16Mbit × 2)
Flash ROM including the program for operation control PWB and the Flash ROM copy (ROM–ROM) program) (Flash ROM B') (16Mbit × 2)	Flash ROM made by writing the program data from PC to the Flash ROM (16Mbit × 2)
Writing Flash ROM (16Mbit × 2 / 16Mbit/8Mbit) (Flash ROM C)	"The type (capacity) of Flash ROM is determined depending on the kind of Flash ROM (in the PCU PWB, in the ICU PWB, or in the operation control PWB)."

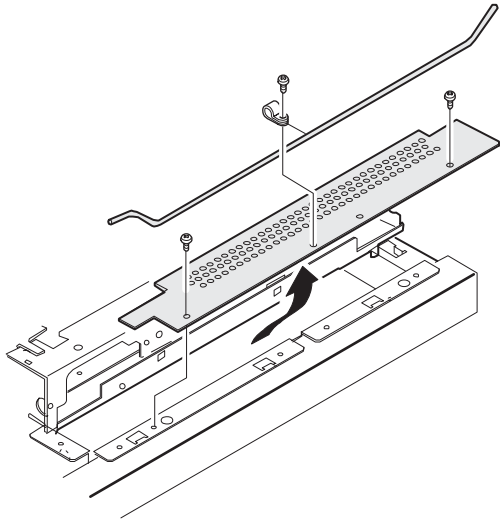
4. Flash ROM version up procedure

(Preliminary procedure)

1) Remove the right upper cabinet of the machine. (2 screws)

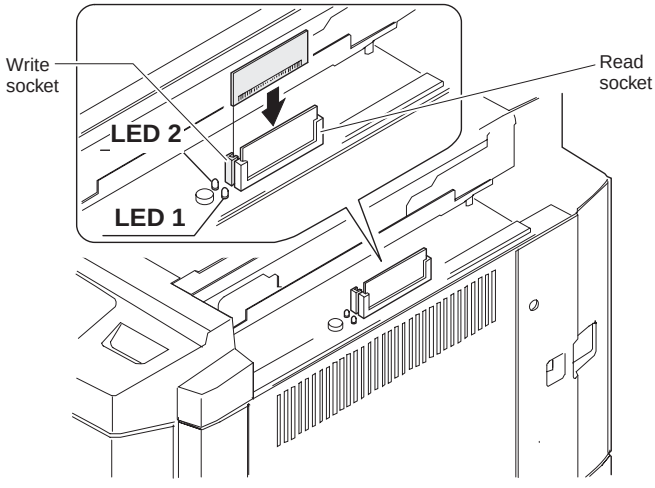


2) Remove the shield plate and the stopper shaft. (3 screws)

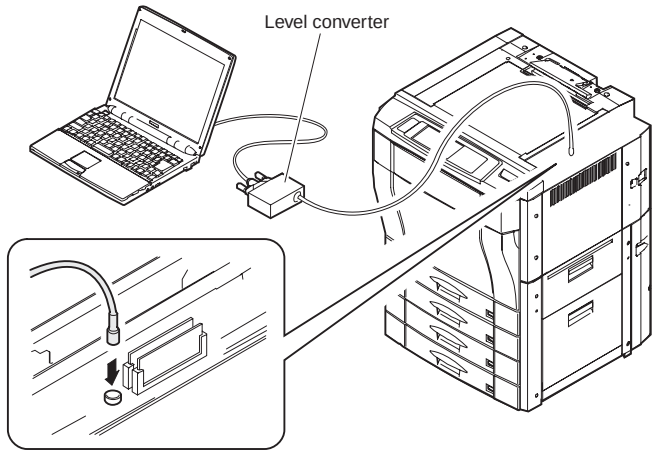


A. By using a computer and the ICU MAIN PWB, the program data of Flash ROM is written from the computer to the Flash FOM of the ICU MAIN PWB.

1) Check that the power of the machine is turned off. Install the Flash ROM which is to be upgraded (copied) to the write socket of the ICU MAIN PWB.

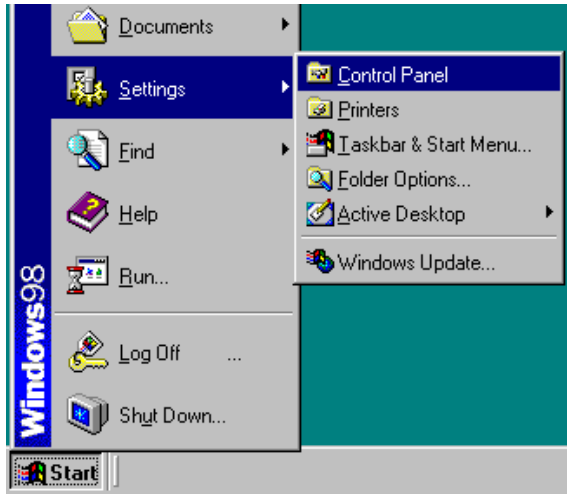


2) Connect the personal computer and the level converter.

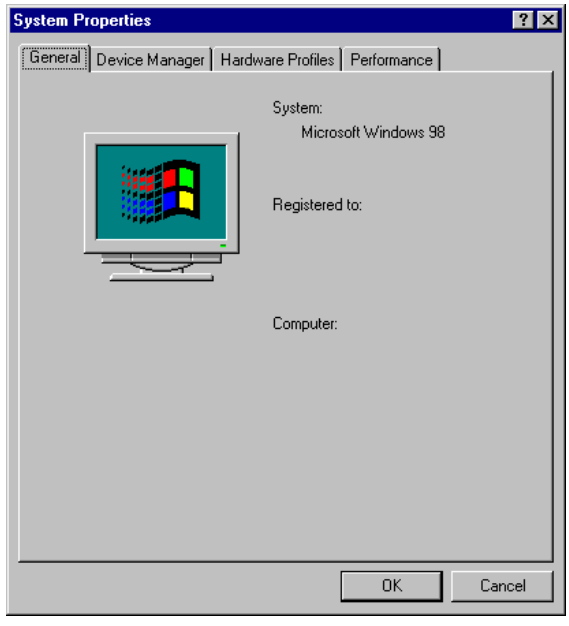


3) Connect the serial I/F connector on the ICU-MAIN PWB with the level converter.
4) Turn on the personal computer, and start the Windows.
5) Turn on the power of the machine.
6) Set the data communication speed of the computer.

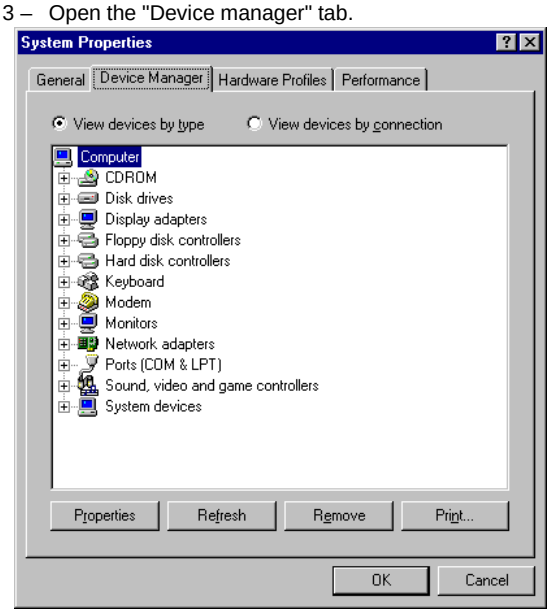
– 1 – From Start → Setup → Program, select "Control panel."



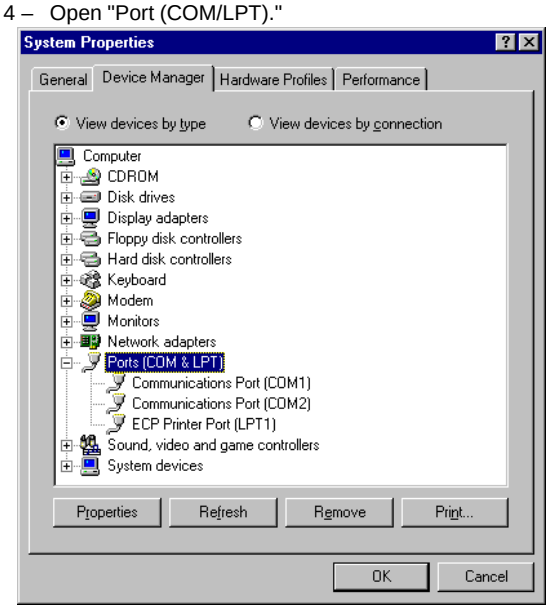
– 2 – Click "System."



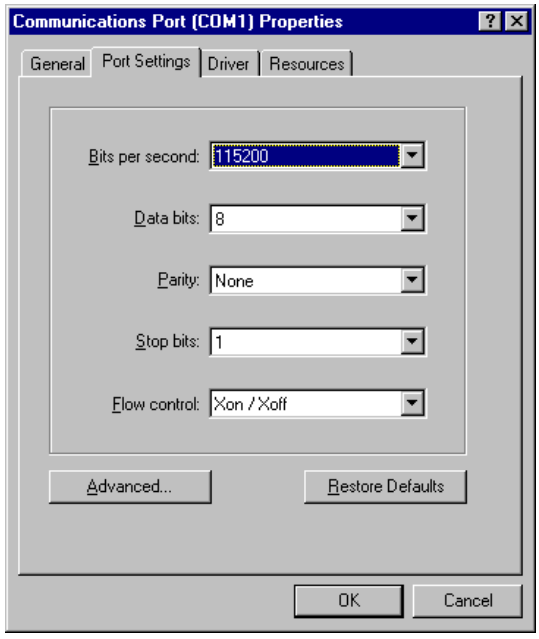
– 3 – Open the "Device manager" tab.



– 4 – Open "Port (COM/LPT)."



– 5 – Select and double-click the "communication port (COM*)" which is used.



– 6 – Open the "Port setup" tab, and enter "115200" in the column of bit/sec.

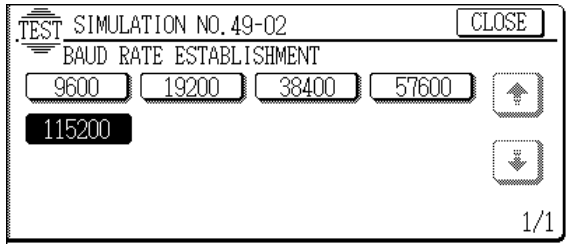
If the above communication speed cannot be set, select and set one of the following speeds.

9600/19200/38600/57600

– 7 – Close the communication speed setup menu.

7) Set the data communication speed on the machine side.
This setup must be the same as the setup on the computer side.

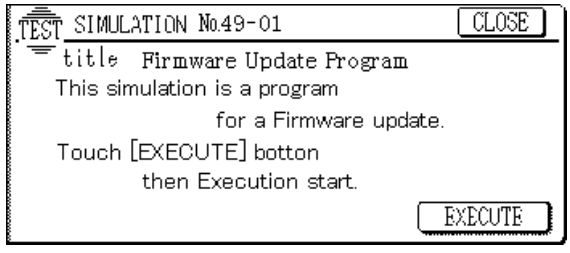
– 1 – Enter the simulation 49-2 mode.



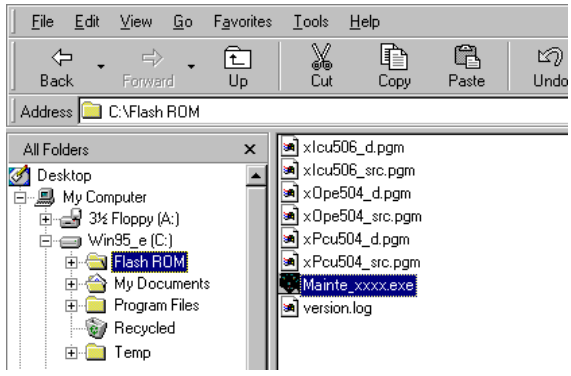
– 2 – Press the communication speed key which is the same as the set speed in procedure 8).
(The set communication speed is highlighted.)

– 3 – Cancel the simulation 49-2.

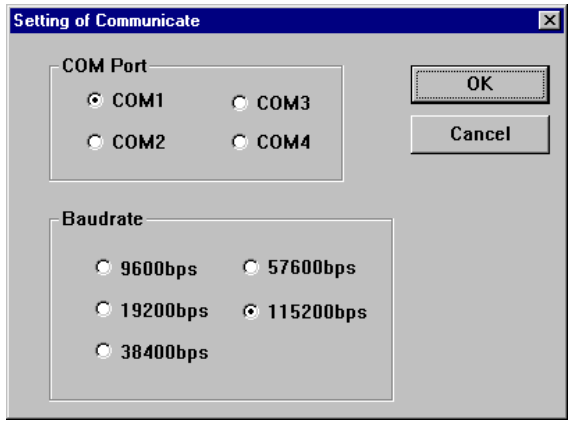
8) Enter the simulation 49-1 mode, and press the EXECUTE key.
(The unit enters the download (Flash ROM writing) mode.)



9) Start the download program on the personal computer.
(Double-click Mainte_xxxx.exe file.)

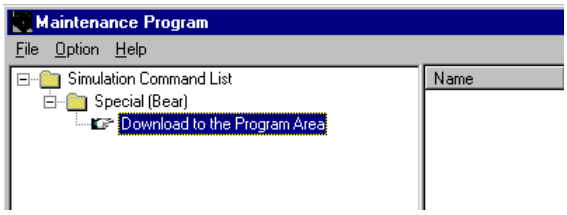


10) Select the communication setup from the option menu.
(Set to the communication speed which is the same as the speed set in procedure 6) and 7).



11) Select the data file which is to be copied (written) to the Flash ROM installed to the ICU MAIN PWB Write socket in procedure 1).

– 1 – Double-click the Simulation Command List holder.

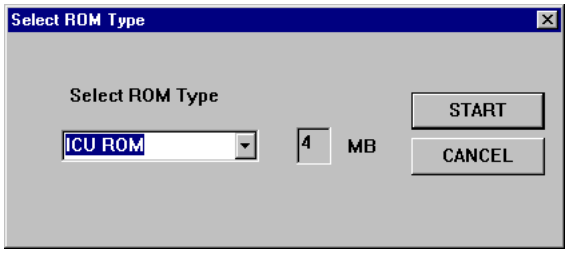


– 2 – Double-click the Special (Bear) holder.

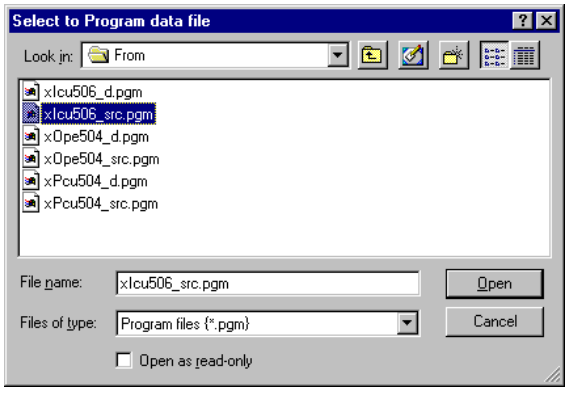
– 3 – Double-clock the File Program Download.

– 4 – The message of "Program Download OK ?" is displayed. Press the OK button.

– 5 – Select the data (PWB name) to be written and click the START button.



– 6 – Select the data to be written and click the OPEN button.



With the above procedure, downloading (writing to the Flash ROM) is started.

(NOTE) Selection of data files to be written determines whether a source ROM (which includes the latest version program and the Flash ROM copy program) or a ROM which has only the latest version program is made.

12) Confirm that downloading (copying to the Flash ROM) is completed on the computer display and on the LCD display.
It normally takes 5 to 7 minutes to copy (write) to the Flash ROM.

When downloading is normally completed, the following indications are shown.

* The Read and Write LED's on the ICU MAIN PWB are turned off.
* "THE PROGRAM WAS COMPLETE" is displayed on the LCD.

13) Cancel the simulation 49-1 and turn off the power of the machine.

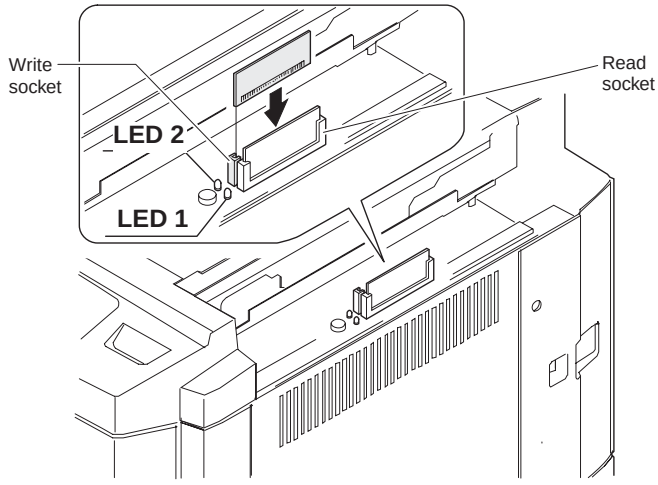
(NOTE) If the Flash ROM is removed from or installed to the machine with the machine power ON, the Flash ROM may be destroyed. Be sure to turn off the power of the machine before removing or installing the Flash ROM.

14) Remove the Flash ROM (which was upgraded) installed to the ICU MAIN PWB Write socket in procedure 1).

When another Flash ROM is to be upgraded, install it to the ICU MAIN PWB Write socket and turn on the power, and perform procedures 11) through 14).

B. Method using two Flash ROM sockets on the ICU MAIN PWB to copy between Flash ROM's

1) Check that the power of the machine is OFF. Install the Flash ROM (of either of ICU MAIN PWB, PCU MAIN PWB, or operation control PWB) to the ICU MAIN PWB Write socket.



2) Install the source Flash ROM (which has the program data of either of ICU MAIN PWB, PCU MAIN PWN, or operation control PWB) to the ICU MAIN PWB Read socket.

3) Turn on the power of the machine.
Copying is started. When copying is completed, the Read and the Write LED's on the ICU MAIN PWB are turned off.
It normally takes 30 to 60 sec to copy (write) to the Flash ROM.

4) Turn off the power of the machine, and remove the Flash ROM's from the Read and the Write sockets.

(After work)

1) Installed the copied Flash ROM to the specified PWB.
2) Turn on the power of the machine and check that the machine operates normally.
3) Use the simulation 22-5 to check each ROM version.
4) Install the shield plate and the stopper shift. (3 screws)
5) Attach the right upper cabinet of the machine. (2 screws)

(NOTE)

The monitor displays before and after and during the Flash ROM version up (copy) operation are shown below. If the Flash ROM version up operation is not completed normally or if the Flash ROM is not installed to the socket properly, a trouble code is displayed. In that case, perform the countermeasures shown in the table below.

(1) ICU MAIN PWB monitor LED lighting specification

The monitor LED status during copy (write) operation of PC to Flash ROM and Flash ROM to Flash ROM is shown below.
"Since, in the copy mode of Flash ROM to Flash ROM, the machine status is indicated only with the monitor LED, there are many monitor LED lighting patterns."
"While in the copy mode of PC to Flash ROM, the machine status is indicated on the operation panel or on the PC monitor display, there are less monitor LED lighting patterns."

Copy (write) mode	LED1 (Read)		LED2 (Write)		Operating status	Content	Remedies
	ON	Blink	ON	Blink			
Flash ROM to Flash ROM			❍		When turning on the power	A target Flash ROM is attached to the Write socket when the power is turned on.	
				❍		No target Flash ROM is attached to the Write socket when the power is turned on.	Insert a target Flash ROM into the Write socket.
	❍		❍		Copy program start	The capacity of the target Flash ROM is proper.	
	❍			❍		The capacity of the target Flash ROM is not proper.	Insert a Flash ROM of the required capacity into the Write socket.
	❍		❍		Flash ROM Erase	During normal ERASE operation of Flash ROM to be written	
				❍	Abnormal end of ERASE operation of the target Flash ROM.	Restart the machine or replace the target Flash ROM.	
		❍	❍		When writing data	During data transmission	
		❍	❍			When writing is normally completed	
		❍		❍		When writing is not normally completed	Restart the machine or replace the target Flash ROM.
	❍		❍		When verifying	When verifying	
	❍		❍			Normal completion of verify	
	❍			❍		Abnormal end of verify	Restart the machine or replace the target Flash ROM.
					Write complete	When writing of all ROM's is completed.	
PC to Flash ROM			❍		When executing simulation	"When checking insertion of a target Flash ROM, insertion of a Flash ROM is detected."	
			❍			"When checking insertion of a target Flash ROM, insertion of a Flash ROM is not detected."	Insert a target Flash ROM into the Write socket.
		❍	❍		When downloading from PC (Except during execution of ERASE)	Downloading from PC is normally executed.	
		❍		❍		Downloading from PC is failed (in Nack transmission).	Execute download again.
		❍	❍			Downloading from PC is normally completed.	
	❍		❍		Flash ROM Erase	ERASE operation of the target Flash ROM is normally executed.	
				❍		Abnormal end of ERASE operation of Flash ROM to be written	Restart the machine or replace the target Flash ROM.
		❍		❍	When writing data	Abnormal end of writing (abnormal writing into Flash ROM)	Restart the machine or replace the target Flash ROM.
	❍		❍		When verifying	When verifying	
	❍		❍			Verifying is normally completed.	
	❍			❍		Abnormal end of verifying	Restart the machine or replace the target Flash ROM.
					Write complete	When writing of all Flash ROM's is completed.	

(2) Operation panel display specifications (Simulation 49-1)

The operation panel display status in the copy mode of PC to Flash ROM mode is shown below.

Display message	Operation/Content	Countermeasures
NOW EXECUTING • • •.	The simulation is started.	
THIS COPIER IS NOT CONNECTED TO PC.	The cable is not connected.	"After turning off the power of the copier, check the connection again."
FLASH ROM ISN'T INSERTED INTO A CONNECTOR.	No target Flash ROM is inserted into the socket.	"After turning off the power of the copier, insert the Flash ROM."
WAITING FOR START OF SOFTWARE ON THE PC.	Waiting for start of Flash ROM writing software on the PC.	Start the software to write into the Flash ROM on the PC.
COPIER SIDES WERE IN PREPARATION.	Waiting for start of PC software and Flash ROM Erase is not completed.	
COPIER SIDES WERE READY.	Waiting for start of PC software and Flash ROM Erase is completed.	
UNSUCCESSFUL IN THE DELETION IN FLASH ROM.	Erase of the target Flash ROM was failed.	Retry or replace the Flash ROM.
WRITE ERROR AROSE.	Copy (Write) of the target Flash ROM was failed.	Retry or replace the Flash ROM.
VERIFY ERROR.	Verify of the target Flash ROM was failed.	Retry or replace the Flash ROM.
NOW DOWN LOADING • • •.	Downloading of data	
TRANSMISSIN ERROR.	Data transmission was failed.	Retry data transmission or retry simulation.
THE PROGRAM WAS COMPLETE.		
THIS SIMULATION DOES NOT WORK IN THIS ROM VERSION.	Displayed when the ICU Flash ROM does not conform to this simulation.	ICU Flash ROM Version UP
NOW FLASH WRITING	Transfer data defreezing state display (10% unit)	

"When the machine power is turned off during data transmission, the PC starts data transmission again from the beginning."

[List (Adjustment/setup values, Necessary exclusive tool)]

1. List of adjustment/setup values

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
07	01	Aging setup	A: Aging	ON/OFF	OFF	❍	❍	❍	The setup data are not stored.	
			B: JAM detection ON/OFF setup	ON/OFF	OFF	❍	❍	❍		
			C: Fusing ON/OFF setup	ON/OFF	OFF	❍	❍	❍		
			D: Warm-up ON/OFF setup	ON/OFF	OFF		❍	❍		
			E: Aging intermittent ON/OFF setup	ON/OFF	OFF	❍	❍	❍		
			F: Developing unit detection ON/OFF setup	ON/OFF	OFF	❍	❍	❍		
			G: Oil check ON/OFF setup	ON/OFF	OFF			❍		
08	01	Developing bias output voltage adjustment	A: (Black)	0 – 700	325	❍	❍	❍		EEPROM (PCU PWB)
			B: (Cyan)	0 – 700	325	❍	❍	❍		
			C: (Magenta)	0 – 700	325	❍	❍	❍		
			D: (Yellow)	0 – 700	325	❍	❍	❍		
	02	Charging/Grid setup (AR-C100/C150)	A: (Black)	200 – 900	525	❍	❍			EEPROM (PCU PWB)
			B: (Cyan)	200 – 900	525	❍	❍			
			C: (Magenta)	200 – 900	525	❍	❍			
			D: (Yellow)	200 – 900	525	❍	❍			
		Charging/Grid setup (AR-C250)	A: (Black)	200 – 900	545			❍		EEPROM (PCU PWB)
			B: (Cyan)	200 – 900	545			❍		
			C: (Magenta)	200 – 900	545			❍		
			D: (Yellow)	200 – 900	545			❍		
	06	Transfer voltage adjustmetnt (Old)	A: Normal (Face) print (Black)	51 – 255	178	❍	❍	❍		EEPROM (PCU PWB)
			B: Back print (Black)	51 – 255	178	❍	❍	❍		
			C: OHP print (Black)	51 – 255	204	❍	❍	❍		
			D: Thick paper print (Black)	51 – 255	204	❍	❍	❍		
			A: Normal (Face) print (Cyan)	51 – 255	164	❍	❍	❍		
			B: Back print (Cyan)	51 – 255	164	❍	❍	❍		
			C: OHP print (Cyan)	51 – 255	209	❍	❍	❍		
			D: Thick paper print (Cyan)	51 – 255	187	❍	❍	❍		
			A: Normal (Face) print (Magenta)	51 – 255	123	❍	❍	❍		
			B: Back print (Magenta)	51 – 255	123	❍	❍	❍		
			C: OHP print (Magenta)	51 – 255	167	❍	❍	❍		
			D: Thick paper print (Magenta)	51 – 255	138	❍	❍	❍		
			A: Normal (Face) print (Yellow)	51 – 255	123	❍	❍	❍		
			B: Back print (Yellow)	51 – 255	123	❍	❍	❍		
			C: OHP print (Yellow)	51 – 255	182	❍	❍	❍		
			D: Thick paper print (Yellow)	51 – 255	138	❍	❍	❍		
21	01	Maintenance cycle setup	Maintenance timing (Print quantity)	0 – 6	4	❍	❍	❍	0. 5K 1. 10K 2. 15K 3. 20K 4. 40K 5. 80K 6. FREE	EEPROM (PCU PWB)
			Maintenance message redisplay	0 – 2	1	❍			0. 500 sheets 1. 1000 sheets 2. 2000 sheets	EEPROM (PCU PWB)
24	05	Reset the developer counter [YMCK]	Select the color (Black, Cyan, Magenta, Yellow)		0	❍	❍	❍		EEPROM (PCU PWB)
	07	Reset the OPC drum correction counter	Select the color (Black, Cyan, Magenta, Yellow)		0	❍	❍	❍		EEPROM (PCU PWB)
25	02	Toner concentration reference control level	(Black)	0 – 255	128	❍	❍	❍	The adjustment value cannot be entered directly	EEPROM (PCU PWB)
			(Cyan)	0 – 255	128	❍	❍	❍		
			(Magenta)	0 – 255	128	❍	❍	❍		
			(Yellow)	0 – 255	128	❍	❍	❍		
26	01	Option setup	RADF	Option/ None	None		❍	❍		EEPROM (PCU PWB)
			DUPLEX / PAPER FEED TRAY	Option/ None	None		❍	❍		
			SORTER FINISHER	Option/ None	None		❍			
				Option/ None	None			❍		
			PRINTER	Option/ None	None		❍	❍		
	02	Tray/size setup	LCC paper size	0 – 3	0		❍			EEPROM (PCU PWB)
				0 – 2	0			❍		
			8.5" × 13" paper size detection	0 – 1	0		❍	❍		
			Manual paper feed paper display type	0 – 2	1		❍	❍		

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
26	03	Auditor mode setup	Auditor mode	1 – 3 (New)	1		❍	❍	1. P10 2. AR-EC1 3. VENDOR (Mode 1 – 3)	EEPROM (PCU PWB)
				1 – 3 (Old)	1		❍		1. P10 2. CARD 3. Other	
				1 – 2 (Old)	1			❍	1. P10 2. AR-EC1	
				1 – 4	3	❍			1. MODE1 2. MODE2 3. MODE3 4. NONE	
			Receipt display	0 – 1	0	❍				
	05	Counter mode setup	A: B/W (A3/A3 Wide/11 × 17) copy (total)	1 – 2	2		❍	❍		EEPROM (PCU PWB)
					1	❍				
			B: Color (A3/A3 Wide/11 × 17) copy (total)	1 – 2	2		❍	❍		
					1	❍				
			C: B/W (A3/A3 Wide/11 × 17) copy (maintenance)	1 – 2	2	❍	❍	❍		
			D: Color (A3/A3 Wide/11 × 17) copy (maintenance)	1 – 2	2	❍	❍	❍		
			E: B/W (A3/A3 Wide/11 × 17) copy (developer)	1 – 2	2	❍	❍	❍		
			F: Color (A3/A3 Wide/11 × 17) copy (developer)	1 – 2	2	❍	❍	❍		
	06	Destination setup	Destination	1 – 9	1		❍	❍		EEPROM (PCU PWB)
		User logo setup	User logo	0 – 10	0	❍				
	18	Toner save mode setup	A: Toner save mode	0 – 1	0	❍	❍	❍	Only for Japan and UK	EEPROM (PCU PWB)
	22	Language setup	Language				❍	❍	English (US) / Japanese / German / French / Danish / Italian / Spanish / Swedish / English (UK)	EEPROM (PCU PWB)
	28	AC power voltage setup	AC power voltage	100 / 120 / 230	100	❍			The set value (default) differs depending on the destination.	EEPROM (PCU PWB)
					120		❍	❍		
					230		❍	❍		
	30	CE mark conformity control inhibition	A: CE mark set value	0 – 1	0	❍	❍	❍	The set value (default) differs depending on the destination.	EEPROM (PCU PWB)
	32	Fan motor RPM setup	A: VFM	0 – 100	15	❍	❍	❍		EEPROM (PCU PWB)
			B: VFM(HEAT)	0 – 100	15	❍	❍	❍		
			C: CFM1	0 – 100	0	❍	❍	❍		
			D: LSUFM	0 – 100	15	❍	❍	❍		
			E:DCFM	0 – 100	0	❍	❍	❍		
	35	Trouble memory mode setup	A: Trouble memory mode	0 – 1	0	❍	❍	❍		EEPROM (PCU PWB)
	45	Copy fee setup	A: Black/white copy	0 – 999	10	❍				EEPROM (PCU PWB)
			B: Color copy	0 – 999	50	❍				
			C: A3 color copy	0 – 999	100	❍				
			D: Copy fee display	0 – 1	1	❍				
	52	Non-print paper (insertion paper, cover paper) count up YES/NO setup	A: Count up YES/NO	0 – 1	*	❍	❍	❍	Japan/Australia : 0, Others : 1	EEPROM (PCU PWB)
	53	User auto color calibration (Copy color balance/density auto adjustment) YES/NO setup	A: YES/NO	0 – 1	*		❍	❍	AR-C150: 0 AR-C250: 1	EEPROM (PCU PWB)
	54	LCD brightness adjustment	Dark – Light	10 – 100	75	❍	❍	❍	The adjustment value cannot be entered directly	EEPROM (PCU PWB)
	55	Fusing capability (Image process) setup in the heavy paper mode (AR-C150)	ENABLE/DISABLE	ON/OFF	*		❍		The default value differs depending on the destination.	EEPROM (ICU PWB)
		Select the gamma characteristics in the color copy mode (AR-C250)	ENABLE/DISABLE	ON/OFF	*			❍	The default value differs depending on the destination.	

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
27	01	PC/MODEM communication trouble (U7-00) detection YES/NO setup	A: PC/MODEM communication trouble (U7-00) detection YES/NO	0 – 1	0	❍	❍	❍		EEPROM (PCU PWB)
	02	Host computer/Modem number setup	Host computer/MODEM number			❍	❍	❍		EEPROM (PCU PWB)
	03	Machine/Host computer MODEM ID number setup	Machine/Host computer modem ID number			❍	❍	❍		EEPROM (PCU PWB)
	05	Tag number setup	Tag number			❍	❍	❍		EEPROM (PCU PWB)
	06	Manual service call Enable/Disable setup	A: Manual service call YES/NO	0 – 1	0	❍	❍	❍		EEPROM (PCU PWB)
40	02	Manual feed tray paper width detection level adjustment	A: Paper guide max. position level				❍	❍	The adjustment value cannot be entered directly.	EEPROM (PCU PWB)
			B: Paper guide min. position level				❍	❍		
	05	OHP sensor detection level adjustment					❍	❍	The adjustment value cannot be entered directly.	EEPROM (PCU PWB)
	06	OHP sensor adjustment parameter set up	A: OHP sheet use Enable/Disable setup	0 – 1	1		❍	❍		EEPROM (PCU PWB)
			B: OHP sensor adjustment target level	0 – 255	200		❍	❍		
			C: OHP paper judgement reference level	0 – 255	120		❍	❍		
41	02	Original size sensor adjustment	Adjustment value (PD1 – 7)	0 – 255	128	❍	❍	❍	The adjustment value cannot be entered directly.	EEPROM (PCU PWB)
43	01	Fusing temperature setup (AR-C100/C150)	A: Temperature set value (upper)	70 – 200		❍	❍		The set value (default) differs depending on the destination. Refer to the details of SIM 43-01.	EEPROM (PCU PWB)
			B: Temperature set value (lower)	70 – 200		❍	❍			
			C: Temperature set value (Ready upper)	70 – 200		❍	❍			
			D: Temperature set value (Ready lower)	70 – 200		❍	❍			
			E: Temperature set value (Energy saving upper)	70 – 200		❍	❍			
			F: Temperature set value (Energy saving reset)	70 – 200		❍	❍			
			G: Temperature set value (Thick paper upper)	70 – 200			❍			
			H: Temperature set value (Thick paper lower)	70 – 200			❍			
			I: Temperature set value (OHP upper)	70 – 200			❍			
			J: Temperature set value (OHP lower)	70 – 200			❍			
		Fusing temperature setup (AR-C250)	A: Temperature set value (upper)	70 – 200				❍		
			B: Temperature set value (lower)	70 – 200				❍		
			C: Temperature set value (Ready upper)	70 – 200				❍		
			D: Temperature set value (Ready lower)	70 – 200				❍		
			E: Temperature set value (Energy saving upper)	70 – 200				❍		
			F: Temperature set value (Energy saving reset)	70 – 200				❍		
			G: Temperature set value (Thick paper (1) upper)	70 – 210				❍		
			H: Temperature set value (Thick paper (1) lower)	70 – 200				❍		
			I: Temperature set value (Thick paper (2) upper)	70 – 210				❍		
			J: Temperature set value (Thick paper (2) lower)	70 – 200				❍		
			K: Temperature set value (OHP upper)	70 – 200				❍		
			L: Temperature set value (OHP lower)	70 – 200				❍		
	07	Fusing oil pump operation setup	A: Pump ON time	5 – 50	12	❍	❍	❍		EEPROM (PCU PWB)
			B: Pump interval time	17 – 250	130	❍	❍	❍		
44	01	Image density correction (Process control) operation mode setup	Operation mode		All ON	❍	❍	❍		EEPROM (PCU PWB)
	04	Image density correction (Process control) target level setup	A: Color image density sensor	0 – 200	102	❍	❍	❍		EEPROM (PCU PWB)
			B: Black image density sensor	0 – 200	133	❍	❍	❍		
			C: Target density level (Yellow)	0 – 200	90	❍	❍	❍		
			D: Target density level (Magenta)	0 – 200	100	❍	❍	❍		
			E: Target density level (Cyan)	0 – 200	83	❍	❍	❍		
			F: Target density level (Black)	0 – 200	15	❍	❍			
					22			❍		
	05	Image density correction (Process control) initial developing bias voltage setup	A: (Black)	0 – 700	325	❍	❍	❍		EEPROM (PCU PWB)
			B: (Cyan)	0 – 700	325	❍	❍	❍		
			C: (Magenta)	0 – 700	325	❍	❍	❍		
			D: (Yellow)	0 – 700	325	❍	❍	❍		

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
44	06	Image forming section correction (Process control) forcible execution				❍	❍	❍	The adjustment value cannot be entered directly.	EEPROM (PCU PWB)
	13	Image density sensor sense level adjustment	Sensor LED level	0 – 255	128	❍	❍	❍	The adjustment value cannot be entered directly.	EEPROM (PCU PWB)
			Dark voltage level	0 – 255	30	❍	❍	❍		
			Calibration sheet sense level	0 – 255	102	❍	❍	❍		
			Calibration plate sense level	0 – 255	80	❍	❍	❍		
	20	OPC drum phase adjustment (Old)	A: Print mode	1 – 3	3	❍	❍		The set up data is not stored.	EEPROM (PCU PWB)
			B: Cyan OPC drum phase	0 – 330	60	❍	❍			
			C: Magenta OPC drum phase	0 – 330	120	❍	❍			
			D: Yellow OPC drum phase	0 – 330	180	❍	❍			
			E: Paper (Paper tray)	1 – 6	5	❍	❍		The set up data is not stored.	
	21	Half tone image correction initial setup	Initial setup data	0 – 255	—	❍	❍	❍	The set up data cannot be entered directly.	EEPROM (PCU PWB)
	23	Image density sensor sense position adjustment	Adjustment value	40 – 60	50	❍	❍	❍	The adjustment value cannot be entered directly.	EEPROM (PCU PWB)
	26	Half tone image correction forcible execution	Correction data	245 – 755	500	❍	❍	❍	The correction data cannot be entered directly.	EEPROM (PCU PWB)
	27	Half tone image correction data reset	Correction data	245 – 755	500	❍	❍	❍	The correction data cannot be entered directly.	EEPROM (PCU PWB)
	30	Transfer voltage adjustment (New)	A: Normal (Face) print (Black)	51 – 255	178	❍	❍	❍		EEPROM (PCU PWB)
			B: Back print (Black)	51 – 255	178	❍	❍	❍		
			C: OHP print (Black)	51 – 255	204	❍	❍	❍		
			D: Thick paper print (Black)	51 – 255	204	❍	❍	❍		
			A: Normal (Face) print (Cyan)	51 – 255	164	❍	❍	❍		
			B: Back print (Cyan)	51 – 255	164	❍	❍	❍		
			C: OHP print (Cyan)	51 – 255	209	❍	❍	❍		
			D: Thick paper print (Cyan)	51 – 255	187	❍	❍	❍		
			A: Normal (Face) print (Magenta)	51 – 255	123	❍	❍	❍		
			B: Back print (Magenta)	51 – 255	123	❍	❍	❍		
			C: OHP print (Magenta)	51 – 255	167	❍	❍	❍		
			D: Thick paper print (Magenta)	51 – 255	138	❍	❍	❍		
			A: Normal (Face) print (Yellow)	51 – 255	123	❍	❍	❍		
			B: Back print (Yellow)	51 – 255	123	❍	❍	❍		
			C: OHP print (Yellow)	51 – 255	182	❍	❍	❍		
			D: Thick paper print (Yellow)	51 – 255	138	❍	❍	❍		
	31	OPC drum phase adjustment (New)	A: Print mode	1 – 3		❍	❍	❍		EEPROM (PCU PWB)
			B: Cyan OPC drum phase	0 – 359	45	❍	❍	❍		
			C: Magenta OPC drum phase	0 – 359	135	❍	❍	❍		
			D: Yellow OPC drum phase	0 – 359	180	❍	❍	❍		
			E: Paper (Paper tray)	1 – 6		❍	❍	❍		
46	01	Copy density adjustment (Color mode) (AR-C150)	A: Text/Photo mode	1 – 99	50		❍			EEPROM (ICU PWB)
			B: Text mode	1 – 99	50		❍			
			C: Printed photo mode	1 – 99	50		❍			
			D: Photo mode	1 – 99	50		❍			
			E: Map mode	1 – 99	50		❍			
		Copy density adjustment (Color mode) (AR-C250)	A: Text printed photo mode	1 – 99	50			❍		
			B: Text photo mode	1 – 99	50			❍		
			C: Text mode	1 – 99	50			❍		
			D: Printed photo mode	1 – 99	50			❍		
			E: Photo mode	1 – 99	50			❍		
			F: Map mode	1 – 99	50			❍		
			G: Text printed photo mode (Copy document mode)	1 – 99	46			❍		
			H: Text mode (Copy document mode)	1 – 99	46			❍		
			I: Printed photo mode (Copy document mode)	1 – 99	46			❍		

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
46	02	Copy density adjustment (Black/white mode) (AR-C150)	A: Text/Photo, Auto pre-scan mode	1 – 99	50		❍			EEPROM (ICU PWB)
			B: Text/Photo, Auto mode	1 – 99	50		❍			
			C: Text/Photo,Manual mode	1 – 99	50		❍			
			D: Text, Auto pre-scan mode	1 – 99	50		❍			
			E: Text, Auto mode	1 – 99	50		❍			
			F: Text, Manual mode	1 – 99	50		❍			
			G: Printed photo mode	1 – 99	50		❍			
			H: Photo mode	1 – 99	50		❍			
			I: Map mode	1 – 99	50		❍			
		Copy density adjustment (Black/white mode) (AR-C250)	A: Text printed photo, Auto pre-scan mode	1 – 99	50			❍		
			B: Text printed photo, Auto mode	1 – 99	50			❍		
			C: Text printed photo, Manual mode	1 – 99	50			❍		
			D: Text photo, Auto pre-scan mode	1 – 99	50			❍		
			E: Text photo, Auto mode	1 – 99	50			❍		
			F: Text photo, Manual mode	1 – 99	50			❍		
			G: Text, Auto pre-scan mode	1 – 99	50			❍		
			H: Text, Auto mode	1 – 99	50			❍		
			I: Text, Manual mode	1 – 99	50			❍		
			J: Printed photo mode	1 – 99	50			❍		
			K: Photo mode	1 – 99	50			❍		
			L: Map mode	1 – 99	50			❍		
			M: Text printed photo, Manual mode (Copy document mode)	1 – 99	50			❍		
			N: Text, Manual mode (Copy document mode)	1 – 99	50			❍		
			O: Printed photo mode (Copy document mode)	1 – 99	50			❍		
	06	Shading correction reference value setup	A: CCD odd number offset (Blue)	0 – 255	150	❍	❍	❍		EEPROM (ICU PWB)
			B: CCD Even number offset (Blue)	0 – 255	150	❍	❍	❍		
			C: CCD odd number gain (Blue)	0 – 255	120	❍	❍			
					150			❍		
			D: CCD even number gain (Blue)	0 – 255	120	❍	❍			
					150			❍		
			A: CCD odd number offset (Green)	0 – 255	150	❍	❍	❍		
			B: CCD even number offset (Green)	0 – 255	150	❍	❍	❍		
			C: CCD odd number gain (Green)	0 – 255	140	❍	❍			
					130			❍		
			D: CCD even number gain (Green)	0 – 255	140	❍	❍			
					130			❍		
			A: CCD odd number offset (Red)	0 – 255	150	❍	❍	❍		
			B: CCD Even number offset (Red)	0 – 255	150	❍	❍	❍		
			C: .CCD odd number gain (Red)	0 – 255	180	❍	❍			
					160			❍		
			D: CCD odd number gain (Red)	0 – 255	180	❍	❍			
					160			❍		
	10	Copy color balance, density adjustment (Color, Text photo mode) (AR-C100/C150)	A – O: Black density 1 – 15	245 – 755	500	❍	❍			EEPROM (ICU PWB)
			A – O: Cyan density 1 – 15	245 – 755	500	❍	❍			
			A – O: Magenta density 1 – 15	245 – 755	500	❍	❍			
			A – O: Yellow density 1 – 15	245 – 755	500	❍	❍			
		Copy color balance, density adjustment (Color, copy document mode) (AR-C250)	A – O: Copy document mode black density 1 – 15	245 – 755	500			❍		
			A – O: Copy document mode cyan density 1 – 15	245 – 755	500			❍		
			A – O: Copy document mode magenta density 1 – 15	245 – 755	500			❍		
			A – O: Copy document mode yellow density 1 – 15	245 – 755	500			❍		
	11	Copy color balance, density adjustment (Color, Text mode)	A – O: Black density 1 – 15	245 – 755	500		❍	❍		EEPROM (ICU PWB)
			A – O: Cyan density 1 – 15	245 – 755	500		❍	❍		
			A – O: Magenta density 1 – 15	245 – 755	500		❍	❍		
			A – O: Yellow density 1 – 15	245 – 755	500		❍	❍		

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
46	12	Copy color balance, density adjustment (Color, Printed Photo mode) (AR-C150)	A – O: Black density 1 – 15	245 – 755	500		❍			EEPROM (ICU PWB)
			A – O: Cyan density 1 – 15	245 – 755	500		❍			
			A – O: Magenta density 1 – 15	245 – 755	500		❍			
			A – O: Yellow density 1 – 15	245 – 755	500		❍			
		Copy color balance, density adjustment (Color, Text printed photo/Printed photo mode) (AR-C250)	A – O: Text printed photo/Printed photo black density 1 – 15	245 – 755	500			❍		
			A – O: Text printed photo/Printed photo cyan density 1 – 15	245 – 755	500			❍		
			A – O: Text printed photo/Printed photo magenta density 1 – 15	245 – 755	500			❍		
			A – O: Text printed photo/Printed photo yellow density 1 – 15	245 – 755	500			❍		
	13	Copy color balance, density adjustment (Color, Photo mode) (AR-C100/C150)	A – O: Black density 1 – 15	245 – 755	500	❍	❍			EEPROM (ICU PWB)
			A – O: Cyan density 1 – 15	245 – 755	500	❍	❍			
			A – O: Magenta density 1 – 15	245 – 755	500	❍	❍			
			A – O: Yellow density 1 – 15	245 – 755	500	❍	❍			
		Copy color balance, density adjustment (Color, Text photo/Photo mode) (AR-C250)	A – O: Text photo/Photo black density 1 – 15	245 – 755	500			❍		
			A – O: Text photo/Photo cyan density 1 – 15	245 – 755	500			❍		
			A – O: Text photo/Photo magenta density 1 – 15	245 – 755	500			❍		
			A – O: Text photo/Photo yellow density 1 – 15	245 – 755	500			❍		
	14	Copy color balance, density adjustment (Color, Map mode)	A – O: Black density 1 – 15	245 – 755	500		❍	❍		EEPROM (ICU PWB)
			A – O: Cyan density 1 – 15	245 – 755	500		❍	❍		
			A – O: Magenta density 1 – 15	245 – 755	500		❍	❍		
			A – O: Yellow density 1 – 15	245 – 755	500		❍	❍		
	15	Copy density adjustment (Monochrome, Text/Photo mode) (AR-C150)	A – O: Black B/W density 1 – 15	245 – 755	500	❍	❍			EEPROM (ICU PWB)
		Copy density adjustment (Monochrome, Copy document mode mode) (AR-C250)	A – O: Black B/W density 1 – 15	245 – 755	500			❍		
	16	Copy density adjustment (Monochrome, Text mode)	A – O: Black B/W density 1 – 15	245 – 755	500		❍			EEPROM (ICU PWB)
	17	Copy density adjustment (Monochrome, Printed Photo mode) (AR-C150)	A – O: Black B/W density 1 – 15	245 – 755	500		❍			EEPROM (ICU PWB)
		Copy density adjustment (Color, Text printed photo, Printed Photo mode) (AR-C250)	A – O: Black B/W density 1 – 15	245 – 755	500			❍		
	18	Copy density adjustment (Monochrome, Photo mode) (AR-C100/C150)	A – O: Black B/W density 1 – 15	245 – 755	500	❍	❍			EEPROM (ICU PWB)
		Copy density adjustment (Monochrome, Text photo/Photo mode) (AR-C250)	A – O: Black B/W density 1 – 15	245 – 755	500			❍		
	19	Copy density adjustment (Monochrome, Map mode)	A – O: Black B/W density 1 – 15	245 – 755	500		❍	❍		EEPROM (ICU PWB)
	20	Print (printer engine) copy color balance/density (gamma) adjustment (manual adjustment)	A – O: Black density 1 – 15	245 – 755	500	❍	❍	❍	Without print	EEPROM (ICU PWB)
			A – O: Cyan density 1 – 15	245 – 755	500	❍	❍	❍		
			A – O: Magenta density 1 – 15	245 – 755	500	❍	❍	❍		
			A – O: Yellow density 1 – 15	245 – 755	500	❍	❍	❍		
	21	Print (printer engine) copy color balance/density (gamma) adjustment (manual adjustment)	A – O: Black density 1 – 15	245 – 755	500	❍	❍	❍	With print	EEPROM (ICU PWB)
			A – O: Cyan density 1 – 15	245 – 755	500	❍	❍	❍		
			A – O: Magenta density 1 – 15	245 – 755	500	❍	❍	❍		
			A – O: Yellow density 1 – 15	245 – 755	500	❍	❍	❍		
	22	Print (printer engine) copy color balance/density (gamma) adjustment (auto adjustment) (AR-C100)	A: Print quantity	0 – 99	1	❍			The setup data is not stored.	EEPROM (ICU PWB)
			B: Print mode	1 – 4	1	❍				
			C: Paper (Paper tray)	1 – 6	2	❍				
			Color balance (gamma) adjustment data			❍			The adjustment value cannot be entered directly.	EEPROM (ICU PWB)
	23	Half tone high density correction setup		ON/OFF	OFF		❍	❍		EEPROM (ICU PWB)

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
46	24	Print (printer engine) copy color balance/density (gamma) adjustment (auto adjustment) (AR-C150/C250)					❍	❍	The adjustment value cannot be entered directly.	EEPROM (ICU PWB)
	25	Copy color blance adjustment (Mono color copy mode)	C (RED)	0 – 255	0			❍		EEPROM (ICU PWB)
			C (GREEN)	0 – 255	255			❍		
			C (BLUE)	0 – 255	255			❍		
			C (PURPLE)	0 – 255	148			❍		
			C (ORANGE)	0 – 255	38			❍		
			C (BROWN)	0 – 255	131			❍		
			M (RED)	0 – 255	255			❍		
			M (GREEN)	0 – 255	0			❍		
			M (BLUE)	0 – 255	255			❍		
			M (PURPLE)	0 – 255	238			❍		
			M (ORANGE)	0 – 255	140			❍		
			M (BROWN)	0 – 255	255			❍		
			Y (RED)	0 – 255	255			❍		
			Y (GREEN)	0 – 255	255			❍		
			Y (BLUE)	0 – 255	0			❍		
			Y (PURPLE)	0 – 255	105			❍		
			Y (ORANGE)	0 – 255	255			❍		
			Y (BROWN)	0 – 255	229			❍		
	26	Copy color blance default setup (Mono color copy mode)	C (RED)	0 – 255	0			❍		EEPROM (ICU PWB)
			C (GREEN)	0 – 255	255			❍		
			C (BLUE)	0 – 255	255			❍		
			C (PURPLE)	0 – 255	148			❍		
			C (ORANGE)	0 – 255	38			❍		
			C (BROWN)	0 – 255	131			❍		
			M (RED)	0 – 255	255			❍		
			M (GREEN)	0 – 255	0			❍		
			M (BLUE)	0 – 255	255			❍		
			M (PURPLE)	0 – 255	238			❍		
			M (ORANGE)	0 – 255	140			❍		
			M (BROWN)	0 – 255	255			❍		
			Y (RED)	0 – 255	255			❍		
			Y (GREEN)	0 – 255	255			❍		
			Y (BLUE)	0 – 255	0			❍		
			Y (PURPLE)	0 – 255	105			❍		
			Y (ORANGE)	0 – 255	255			❍		
			Y (BROWN)	0 – 255	229			❍		
	27	Black toner component image gamma adjustment	A: Color mode	0 – 100	50			❍		EEPROM (ICU PWB)
48	01	Copy magnification ratio adjustment	A: Sub scanning direction copy magnification ratio adjustment	1 – 30	15	❍	❍	❍		EEPROM (PCU PWB)
			B: Main scanning direction copy magnification ratio adjustment	1 – 99	50	❍	❍	❍		
	06	Motor RPM adjustment	A: Resist motor speed	1 – 99	55	❍	❍	❍		EEPROM (PCU PWB)
			B: Transfer belt speed	1 – 99	51	❍	❍	❍		
			C: Fusing rotation speed (greater than B4)	1 – 99	45	❍	❍			
					40			❍		
			D: Fusing rotation speed (smaller than B4)	1 – 99	40	❍	❍	❍		
			E: Drum motor speed (Black/White)	1 – 99	42	❍	❍	❍		
			F: Drum motor speed (Color)	1 – 99	37	❍	❍	❍		
50	01	Copy lead edge adjustment	A: RRC-A (Distance between MHP and the image lead edge)	0 – 99	50	❍	❍	❍		EEPROM (PCU PWB)
			B: RRC-B (Resist roller ON timing)	0 – 99	50	❍	❍	❍		
			C: DEN-A (Lead edge void quantity)	0 – 99	40	❍	❍	❍		
			D: DEN-B (Rear edge void quantity)	0 – 99	30	❍	❍	❍		
			E: IMAGE LOSS (Lead edge image loss quantity)	0 – 99	40	❍	❍	❍		
	02	Lead edge adjustment (Simple method)	A: L1	0 – 99	0	❍	❍	❍		EEPROM (PCU PWB)
			B: L2	0 – 99	0	❍	❍	❍		
			C: DEN-A (Lead edge void quantity)	0 – 99	40	❍	❍	❍		
			D: DEN-B (Rear edge void quantity)	0 – 99	30	❍	❍	❍		
			E: IMAGE LOSS (Lead edge image loss)	0 – 99	40	❍	❍	❍		

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
50	10	Paper image off-center adjustment	A: Manual paper feed tray	30 – 70	50		❍	❍		EEPROM (ICU PWB)
			B: Paper feed tray 1	20 – 80	50	❍	❍	❍		
			C: Paper feed tray 2	20 – 80	50	❍	❍	❍		
			D: Paper feed tray 3	20 – 80	50	❍	❍	❍		
			E: Paper feed tray 4	20 – 80	50	❍	❍	❍		
			F: Large capacity tray (LCC)	30 – 70	50		❍	❍		
			G: Duplex (ADU)	20 – 80	30		❍	❍		
			H: (Black) image main scanning direction print magnification ratio	1 – 199	100	❍	❍	❍		
	12	Original off-center adjustment	A: Original table mode	20 – 80	50	❍	❍	❍		EEPROM (ICU PWB)
			B: RADF mode	20 – 80	50	❍	❍	❍		
	20	Color image registration adjustment (Main scanning direction)	A: Tandem adjustment value (Cyan)	1 – 199	100	❍	❍	❍		EEPROM (ICU PWB)
			B: Main scanning direction print magnification ratio adjustment value (Cyan)	1 – 199	100	❍	❍	❍		
			C: Tandem adjustment value (Magenta)	1 – 199	100	❍	❍	❍		
			D: Main scanning direction print magnification ratio adjustment value (Magenta)	1 – 199	100	❍	❍	❍		
			E: Tandem adjustment value (Yellow)	1 – 199	100	❍	❍	❍		
			F: Main scanning direction print magnification ratio adjustment value (Yellow)	1 – 199	100	❍	❍	❍		
	21	Color image registration adjustment Sub scanning direction)	A: Black → Cyan	1 – 199	100	❍	❍	❍		EEPROM (ICU PWB)
			B: .Cyan → Magenta	1 – 199	100	❍	❍	❍		
			C: Magenta – Yellow	1 – 199	100	❍	❍	❍		
			D: Print quantity	1 – 999	1	❍	❍	❍	The setup data is not stored.	
			E: Paper (Paper tray)	1 – 6	3	❍	❍	❍		
	22	Image registration adjustment (Auto)				❍	❍	❍	The adjustment value cannot be entered directly	EEPROM (ICU PWB)
51	01	Separation pawl ON timing adjustment	A: Separation pawl operation timing	30 – 550	290	❍	❍	❍		EEPROM (PCU PWB)
			B: Transfer voltage ON timing	1 – 990	360	❍	❍	❍		
			C: Transfer voltage OFF timing	1 – 990	510	❍	❍	❍		
	02	Paper resist quantity adjustment	A: Manual paper feed tray	0 – 99	60	❍	❍	❍		EEPROM (PCU PWB)
			B: Paper feed tray	0 – 99	60	❍	❍	❍		
			C: Large capacity paper feed tray (LCC)	0 – 99	70	❍	❍	❍		
			D: Duplex (ADU)	0 – 99	70		❍	❍		
52	01	Duplex paper stacking adjustment	A: Manual paper feed tray (Adjustment value)	0 – 99	50		❍	❍		EEPROM (PCU PWB)
			B: Paper feed tray 1 (Adjustment value)	0 – 99	50		❍	❍		
			C: Paper feed tray 2 (Adjustment value)	0 – 99	50		❍	❍		
			D: Paper feed tray 3 (Adjustment value)	0 – 99	50		❍	❍		
			E: Large capacity tray (LCC) (adjustment value)	0 – 99	50		❍	❍		
			F: Paper (Paper tray)	1 – 5	3		❍	❍	The setup data is not stored.	
53	01	Original stop position adjustment (RADF)	A: Face mode	0 – 15	8		❍	❍		EEPROM (RADF CONTROL PWB)
			B: Back mode	0 – 15	8		❍	❍		
	02	Sensor adjustment (RADF)					❍	❍	The adjustment value cannot be entered directly	EEPROM (RADF CONTROL PWB)
63	03	Scanner (CCD) gamma adjustment (correction) (Normal document mode)				❍	❍	❍	The adjustment value cannot be entered directly.	EEPROM (ICU PWB)
	05	Scanner (CCD) gamma default setup (Normal document mode)				❍	❍	❍	The adjustment value cannot be entered directly.	EEPROM (ICU PWB)
	07	Service target color balance (gamma) setup for auto color balance adjustment (SIM 46-24)					❍	❍	The setup data cannot be entered directly	EEPROM (ICU PWB)
	08	Service target color balance (gamma) is set to default (standard) color balance (gamma) for auto color balance adjustment (SIM 46-24)				❍	❍	❍	The setup data cannot be entered directly	EEPROM (ICU PWB)

Simulation Code		Content/Item		Set range	Default	Model			NOTE	Data store location
Main	Sub.					AR-C100	AR-C150	AR-C250		
63	09	Scanner (CCD) gamma adjustment (Correction) (Copy document mode)						❍	The adjustment value cannot be entered directly	EEPROM (ICU PWB)
	10	Scanner (CCD) gamma default setup (Copy document mode)						❍	The correction data cannot be entered directly	EEPROM (ICU PWB)
65	01	Touch panel adjustment	1. Coordinate X on the left upper of the screen		258	❍	❍	❍	The adjustment value cannot be entered directly.	EEPROM (PCU PWB)
			2. Coordinate Y on the left upper of the screen		245	❍	❍	❍		
			3. Coordinate X on the right upper of the screen		831	❍	❍	❍		
			4. Coordinate Y on the right upper of the screen		247	❍	❍	❍		
			5. Coordinate X on the left lower of the screen		257	❍	❍	❍		
			6. Coordinate Y on the left lower of the screen		834	❍	❍	❍		
			7. Coordinate X on the right lower of the screen		831	❍	❍	❍		
			8. Coordinate Y on the right lower of the screen		828	❍	❍	❍		

2. Necessary exclusive tool

Name	Part code	Purpose	Note
SIT chart (CCD gamma adjustment chart)	UKOG-0280FCZZ	Used to correct CCD gamma characteristics.	
Service color test chart	UKOG-0283FCZZ	Used to check copy quality.	
Gray scale chart	UKOG-0162FCZZ	Used to check copy density.	
Image density sensor adjustment sheet	UKOG-0281FCZZ	Used to adjust the image density sensor.	
Fusing pressure adjustment wrench	UKOG-0282FCZZ	Used to adjust the fusing pressure.	
Starting powder	UKOG-0123FCZZ	Used to reduce friction between the transfer belt and the transfer belt cleaning blade.	
Horizontal level check sheet	UKOG-0286FCZZ	Used to adjust the horizontal level.	Horizontal level must be checked and adjusted when setting up or moving the machine.
Screw	LX-BZ0870FCZZ	Used to adjust the horizontal level.	Horizontal level must be checked and adjusted when setting up or moving the machine. (This screw is the same as the screw which is used to lock the transfer section when moving the machine to protect against vibration.)
Horizontal level check string (with washer)	UKOG-0285FCZZ	Used to adjust the horizontal level.	Horizontal level must be checked and adjusted when setting up or moving the machine.
Spacer disk	UKOG-0287FCZZ	Used to adjust the horizontal level.	Horizontal level must be checked and adjusted when setting up or moving the machine.
Spacer	UKOG-0288FCZZ	Used to adjust the horizontal level.	Horizontal level must be checked and adjusted when setting up or moving the machine.
Cleaning cloth	UKOG-0289FCZZ	Used to clean the optical system.	Wash to reuse.
Level converter	UKOG-0002QSZZ (with serial cable)	Used to download the FLASH ROM program from a PC to the FLASH ROM on the machine.	This hardware is used to download (upgrade) the FLASH ROM program from a PC to the FLASH ROM on the machine. Commercially available serial cable can be used.
	UKOG-0003QSZZ (without serial cable)		
FLASH ROM program download program file		This file includes the program to download (upgrade) the FLASH ROM program.	Mainte_xxxx.exe
Spare FLASH ROM		FLASH ROM for writing/Master FLASH ROM for copying	FLASH ROM (16Mbit x 2) 2pcs.
		FLASH ROM for writing	FLASH ROM (16Mbit) 1pc.
		FLASH ROM for writing	FLASH ROM (8Mbit) 1pc.
Magnifying glass		Picture quality check (Mainly the color registration is checked.)	Purchase a commercially available one. (Magnification ratio: 20 – 25)

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